

MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL RAILROAD AND FINANCIAL NEWSPAPER.

CONTENTS.

EDITORIAL.

A Confirmation by Hon. Abram S. Hewitt of Mr. Atkinson's Predictions as to Iron Production	5
Prospect for Nickel	5
Railroad Building in the South	6
Cornwall—A New Town in Virginia	6
The Story of Savernake	6
Mr. Hewitt's Statements as to the Abundance of Southern Iron Ores	42
Another Great Development Company in Virginia	42
Editorial Short Notes	5, 6

INDUSTRIAL NOTES.

Trade Notes	47, 52
Illustrated Descriptions of Machinery	47, 69
Iron Market Report	70
Eastern Lumber Markets	74
The National Cordage Co.	75

FINANCIAL DEPARTMENT.

New Banks	38
Bonds, Stocks and Other Notes	38
Southern Stock Quotations	39

RAILROAD DEPARTMENT.

Railroad Construction	37
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CORRESPONDENCE AND NOTES.

The Mississippi River	7
A Great Steel Plant at Tredegar, Ala.	8
Middlesborough Coals	8
General Notes	8
The Yesterday, To-day and To-morrow of Buena Vista, Va.	9
Prosperous Virginia	11
The Story of Savernake, Va.—An Anglo-Virginian Enterprise	11
A Railroad Officer's Strong Statements	11
Dallas, Texas	12
A Visit to Roanoke	37
Excursion to Roanoke	37
Middlesborough, Ky.	38
Shendun	43
The Town of Cornwall	43
Iron Is King	44

CONSTRUCTION DEPARTMENT.

Fall particulars regarding all industrial enterprises organized in the South during the past week	40-42
Building Notes	42
Burned	42
Machinery Wanted	44

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Classified Index of Advertisers.

[For ALPHABETICAL INDEX WITH PAGES, SEE PAGE 77.]

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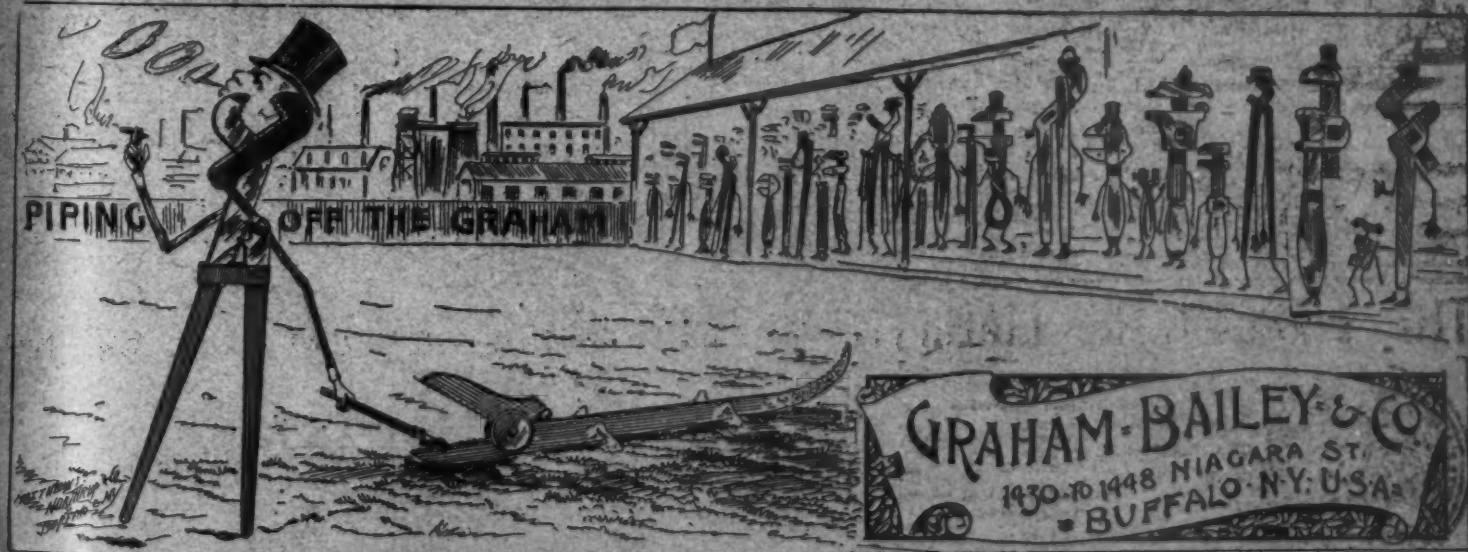
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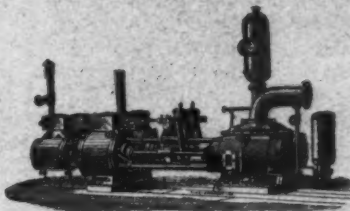
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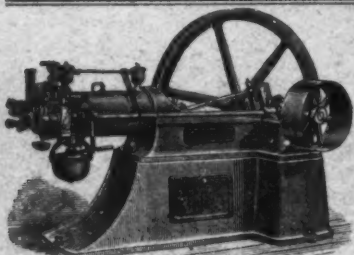
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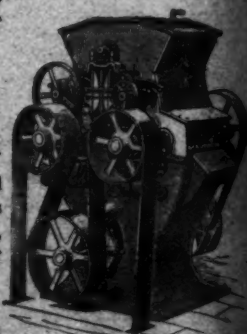


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MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

VOL. XVIII. No. 10. }
WEEKLY.

BALTIMORE, OCTOBER 11, 1890.

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BALTIMORE, OCTOBER 11, 1890.

THE MANUFACTURERS' RECORD learns from reliable sources that efforts are being made to impress the foreign iron and steel makers now in this country with the idea that the South has not the advantages for iron making which are claimed for it. The announcement first made in the MANUFACTURERS' RECORD that nearly two thirds of the English visitors had agreed to go South has so stirred up some of the Northern and Northwestern iron interests that they are making tremendous efforts to turn them from the Southern trip. The foreign visitors had not been in this country three days before many of them were informed that the development of the South's iron interests was merely a "boom" of uncertain future. It is to be regretted that such a spirit of jealousy and rivalry has caused any one to misrepresent the South in this manner, but fortunately it has had no ill effect. The MANUFACTURERS' RECORD, backed by such proof as Mr. Atkinson's recent article, Hon. Abram S. Hewitt's speech before the Institute and other help, has been able to convince our foreign friends that the South has all the advantages claimed for it. One of the leading members of the Institute, in telling the editor of the MANUFACTURERS' RECORD of these efforts to discredit the South, said, "we propose to go down South and see for ourselves," and then added, in referring to those who had made such statements, "we know that there are croakers everywhere."

A Confirmation of Mr. Atkinson's Predictions as to Iron Production.

The very elaborate review of the world's iron trade, by Hon. Edward Atkinson, published in the MANUFACTURERS' RECORD of September 27, has commanded the widest attention, and his predictions as to the amount of iron that the world's consumptive requirements would demand ten years hence startled those who had not previously studied the subject. Following Mr. Atkinson's brilliant article has come a paper read by Hon. Abram S. Hewitt before the British Iron and Steel Institute in New York last week. Mr. Hewitt's statements strongly confirm what Mr. Atkinson wrote and prove very conclusively that the increase in iron production during the next ten years must be enormous to supply the ever-growing demand. Mr. Hewitt believes that on the most conservative basis the United States must by 1900 increase its iron production from 7,000,000 to 9,000,000 tons over the yield of this year, or an increase of not far from 1,000,000 tons a year. In other words, the United States must make 17,000,000 to 19,000,000 tons of iron in 1900, with a strong probability of a demand for even more.

The question in the iron trade is not so much how are we to find a market for the product of so many new furnaces, but rather how are we to build furnaces and open mines fast enough to meet the demand for iron. If the United States must add 1,000,000 tons a year to its iron production, this means that we must not only build about 40 new furnaces every year, but we must keep in blast every furnace now running, or build a new one for every one that drops out of the line of active producers. What this means to the South can scarcely be appreciated, but we can understand that the South must every year during the next ten, and then on into the future, build as many new furnaces, and in all probability more than it has ever built in any one year. This insures a continuance of the

wonderful progress of the last few years, and justifies on the most exacting financial basis the building of as many furnaces every year as are now under construction.

The views of Mr. Atkinson and Mr. Hewitt are directly in line with what the MANUFACTURERS' RECORD has urged for the last year or two, and the facts which they bring out show that there is no danger of overdoing the business, unless we should build furnaces much more rapidly than we are now doing.

Prospect for Nickel.

Congress at short notice has appropriated a million dollars for the purchase of nickel. This metal will be bought by the Navy Department that a supply may be secured for the manufacture of nickel-steel armor plate, recent experiments having demonstrated that this plate has a resistance power possessed by no other combination of metals devised by human ingenuity. In the discussions preceding the passage of the bill it was intimated, rather than stated, that the supply of this metal was limited, and that for certain reasons (which were not made public) the purchase must be made at once. There is but one inference to be drawn from this hasty but evidently necessary action. It is conceded that all the powers of Europe are preparing for war. All have great navies, in which are included many armored vessels. All watch with ceaseless vigilance every new war invention, whether for offence or defence. It was Ericsson's Monitor that in 1862 revolutionized the systems of naval construction of the world. The memorable conflict at Hampton Roads not only caused the destruction of the Merrimac, but of all the fleets of the European powers. Then nation strove to outdo nation in devising armored ships that should be impregnable, while Krupp and other gun-makers were equally busy in making cannon and missiles to penetrate whatever new armor might be invented. Millions of dollars were expended in experiments,

followed by costly construction, until finally England, the continental powers and even poor Turkey possessed armored ships and wonderful guns and missiles. Little powers like Chili put on airs and finally became insolent, thinking because the United States had done nothing during all this period to keep up with European naval development that therefore the country could neither take the aggressive nor defend itself. Chili and China had armored ships and felt equal, should opportunity arise, to send them to threaten to bombard our Pacific cities unless they would save themselves by the payment of heavy tributes. But Uncle Sam was not asleep nor even napping. On the contrary, he was very wide awake, and was waiting quietly to see what all the others, big and little, would accomplish before he expended any considerable sum in experimental ships. When the others had done their best he began where they left off, and as a result, the United States has now warships that outrank all others of their class for effectiveness. But, not content with this, a step further was taken, and an armor was found that stood tests under exposure to which the best used by foreign nations was destroyed. The new armor required considerable nickel. A secretly-conducted investigation as to sources of supply brought to light the fact that but few mines were in operation where nickel ores were found in abundance. It was to be expected, as a thing of course, that when the results of these tests were made public all the European nations would try to get enough metal to replace their old armor with nickel-steel plates. This would cause a quick purchase of all the stock in the world then attainable, and the making of contracts with miners and smelters to secure the entire production for some considerable period. To prevent this, Congress, admitted to the confidence of the Navy Department sufficiently to understand the emergency, hastened to appropriate the million dol-

lars required to enable the Secretary of the Navy to buy and store all the nickel he needed. This has been done, and all other nations that maintain effective navies must get what they need where they can find it. If it costs this country a million dollars to get its supply of nickel, the aggregate that other powers will need will compel them to expend from ten to twenty million dollars. In other words, a metal of comparatively little value, because of its limited use, has suddenly risen into great importance and created a strong competitive demand for it from many governments. Because of this certainty of demand it will be quite worth the while for geologists and prospectors generally to keep a sharp lookout for nickel. In the Piedmont and mountain regions of the South many kinds of ores have been found and exhibited at various expositions. Among these numerous exhibits, if the catalogues told the truth, were nickel ores. Those who know where those ores are obtained should take measures to ascertain the extent of the deposits, and if they are large enough for profitable working, to purchase the property and begin operations at once. It would be adding another laurel leaf to the South's industrial chaplet if, among her diversified stores of mineral wealth, nickel could be found in sufficient quantity to meet the needs of the naval constructors of the world.

Railroad Building in the South.

The Chicago Railway Age has compiled the figures of railway construction for the nine months ending October 1st, and ascertains that in 39 of the States and Territories the actual number of miles of track laid on 212 lines of road were 3,782 miles of new railway. The following table gives the number of miles of new track finished in fourteen Southern States:

	Lines.	Miles.
Alabama.....	13	201
Arkansas.....	7	108
Florida.....	5	64
Georgia.....	12	323
Kentucky.....	8	168
Louisiana.....	4	127
Maryland.....	2	60
Mississippi.....	3	78
North Carolina.....	11	226
South Carolina.....	3	169
Tennessee.....	6	147
Texas.....	8	195
Virginia.....	8	136
West Virginia.....	2	33
Total, 14 States.....	92	1,975

These figures show that somewhat more than 52 per cent. of the entire construction was in the South, Georgia taking the lead with 323 miles, Montana following with 312 miles, and North Carolina third on the general but second on the Southern list with 226 miles.

THE interview with Col. A. Pope, general freight agent of Norfolk & Western system, presents in strong light an idea of the immense traffic from all quarters which that road is now handling, and verifies all that was stated in an exhaustive account of that railroad and its tributaries which

appeared in a recent issue of the MANUFACTURERS' RECORD. One strong point in Col. Pope's narrative is his confidence in Roanoke as a great trade and manufacturing center. "I expect Roanoke to be one of the foremost commercial and manufacturing cities of the South," he declares, and he gives irrefutable reasons why this must be, and then says: "It is perfectly safe to advise people to come to Roanoke to settle, or to engage in business or in the purchase of business or residence lots. Any one buying property in the center of this town at present prices will be certain to see it advance in value, and that very quickly." The exceptional opportunities Col. Pope has enjoyed from the time that place was a petty village until it has grown to a city of 20,000 people gives the greatest possible weight to his expressed judgment.

Cornwall.

Rockbridge county, Virginia, is to have another industrial town added to the three that have by their rapid growth and the push and energy of their citizens made the name of that old county famous throughout the land and drawn to it throngs of prospectors, investors and home-seekers. This town is to bear the appropriate name of Cornwall, in recognition of its vicinage to the rich deposits of tin ore at Savernake, the story of which is graphically told in another column.

The property purchased, of which Cornwall is the local point, consisting of 5,170 acres, lies on both sides of Irish creek, and extends to the east bank of South river. Of these at least 4,000 acres contain deposits of iron and manganese ores. Sixteen veins of the former have been carefully prospected, and analyses of ores from ten of them have been made that give results in metallic iron ranging from 53 to 57 per cent. All are high grade ores, and several are believed to contain sufficient manganese to make both spiegeleisen and ferro-manganese.

The corporation that owns and will develop this property is the Irish Creek Mineral & Development Co., with a capital of \$800,000. Its officers are Capt. Robert E. Lee, president; G. D. Letcher, secretary and treasurer; Letcher & Letcher, of Lexington, its attorneys, with a board of directors composed of Virginia and Pennsylvania capitalists. Two of the latter, L. H. Woodrop and C. A. Plau, are wealthy Philadelphia manufacturers.

The site selected for Cornwall consists of 1,000 acres of table and meadow lands in the angle between Irish creek and South river, a spot famous for beauty of location, richness of soil and unfailing crops. The Shenandoah Valley Railroad crosses this property, and country roads from various interiors of the Blue Ridge make it a natural center for the trade of an extensive farming territory.

The Story of Savernake.

Elsewhere in this issue a correspondent tells, in terse but vigorous style, one of the most interesting stories of Southern development that has ever appeared in our columns.

Savernake is the name given to a new industrial town located in that Blue Ridge section of Virginia which, long famous for its beautiful scenery and delightful climate, has within a year been brought into great prominence and become the scene of a surprisingly rapid industrial development centering at the flourishing city of Buena Vista. There Savernake has been founded, and preparations have been made for the establishment of a new American industry. English and American capitalists have combined their capital to open the rich tin ore mines on the properties they have purchased, to build smelting works, rolling mills and all needed accessories, and to engage on a large scale in the manufacture of tin plate. They expect, within twelve months, to be able to make a weekly output of 3,500 boxes, and within a year thereafter to increase it to 8,000 boxes. This is the first practical reply the South makes to those Congressmen who fought for free trade during the discussion over the tariff bill. The contest virtually centered around tin plate. Grave statesmen drew fearful pictures of the disasters that would follow if a protective duty was imposed on that important article. It would destroy the South's rising canning industry; it would tax every workingman's dinner-pail and drinking-cup. It was pregnant with disasters of all sorts, and would not create an American tin plate industry, because, forsooth, we had no tin in this country. How little those Congressmen knew of the mineral resources of their country! Before the ink of the President's signature to the tariff bill was fairly dry, preparations for the tin plate industry at Savernake were begun, and they will be pressed forward to a finish with all the power that ample capital and experienced management can command, and around this main industry will grow up countless others based upon tin plate as the main material. In the enthusiastic language of our correspondent, there will soon be on the market Virginia tin plate free from lead made out of steel plates manufactured of iron from Virginia mines, and of tin smelted from the ores of Savernake. Thus Virginia comes to the front as the leader in this new American industry, and rebukes the ignorance and conceit of so-called statesmen who ridiculed the proposition that tin plate would ever be made from American ores.

Sir James Kitson, president of the Iron and Steel Institute of Great Britain, in a recent interview with a representative of the New York Tribune, among other candid statements respecting the rapid changes in the trade relations between Eng-

land and the United States, said:

What do I think of the McKinley tariff bill? Well, I think your new tariff bill is calculated to diminish the deliveries of English manufactured goods in the American market. I fear that that is the object of the framers. I might say more on this subject if I were on the other side of the Atlantic. British manufacturers are so convinced of the value of free trade and of the necessity for the import of free raw material to their own country that no idea of retaliation on the United States is ever seriously entertained. You must be aware that for the year ending the 30th of last June the United States produced more pig iron than Great Britain. There is little doubt that the production as to quantity gives them the supremacy, which they are likely to maintain and advance, and the whole of the enormous quantity is consumed in the United States. But the tariff bill affects principally the manufacturers of tin plates, the last remaining important manufacture which counts the United States as its leading customer. Great efforts are being made in the United States to secure that manufacture also.

These admissions, by one of the highest authorities of Great Britain, carry convincing weight. The United States has gained supremacy in iron making. "The last remaining important manufacture" (of Great Britain) "which counts the United States as its leading customer" is the manufacture of tin plates. In this endeavor Savernake takes the lead, with every assurance of success.

Near Savernake is the Blue Ridge, with its beautiful outlines, its stores of mineral and forest wealth, and its abundant springs of freestone and medicated waters. In this lovely location a change similar to that which converted a farm into the flourishing city of Buena Vista is about to occur. Fortunate were all those who were wise enough to foresee what Buena Vista would become and to act upon that knowledge. Equally fortunate in all probability will they be who shall take part in the development of Savernake and of the mineral and forest wealth that surrounds it. Distant from each other by but a single mile, the older and the younger city will alike continue their growth until in a short time, as there is every reason for believing, they will strike the line of corporate separation, after which it will be impossible for the stranger to say where the one ends and the other begins.

THE MANUFACTURERS' RECORD, observant of all progress in the South, is watching with particular interest that which now extends from Harper's Ferry to the southern and southwestern border of the Old Dominion, and does not hesitate to predict that in "the good time coming," and coming fast, there will be a continuous chain of manufacturing towns in the extensive iron and coal belt of that grand Commonwealth that will rival in the diversity and magnitude of their industries all similar centers of manufactures and trade in New England and the Middle States.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

THE MISSISSIPPI RIVER.

[Written for the MANUFACTURERS' RECORD by
MAJOR WM. STARLING.]

As at present organized, the levees of the Yazoo front are maintained by two districts, each with its own organization and its own methods of raising revenues. The supreme governing bodies of these districts are called levee boards. They consist of one or more members from each county in the district. They are armed with a good deal of authority, with power to impose taxes up to a certain limit, to condemn lands, and to exercise all functions incidental to the building and maintenance of levees. They elect their own officers and fix their own rates of salaries.

The territory embraced within these districts are mutually dependent on the levees of the other. The lower district would be partially overflowed by breaks in the upper; and certain counties of the upper district lie behind those of the lower, and would be affected by any breaks in the levees of the latter. Attempts have been made to consolidate the whole administration in the hands of one board, but serious obstacles have been found to exist in the different rates and manners of taxation of the two districts, their debts and a diversity of local interests. So far very little practical inconvenience has been found in the division of territory, the two organizations having worked together very harmoniously.

It might seem a very simple matter to build earthworks sufficient to turn water, but in reality it is a very complex problem. With unlimited means, of course mountains could be thrown up, by the rudest of engineering, that would keep out the greatest of possible floods. But it is never the case that means are unlimited. Be they never so great, it is the engineer's business to expend them economically, to accomplish his objects without waste or extravagance. But the means in this case are not only limited, but scanty. Therefore, the least possible margin can be allowed for contingencies, and minute economies must be studied.

Levees, to fulfill their purpose, must be high enough and strong enough, must rest on a secure foundation and must not be subject to deterioration beyond a known and remediable extent.

The strength of an earthen embankment depends on its shape, its thickness and the quality of the material which composes it. The stronger and heavier the earth, the less the thickness required. Now, with a due regard to economy, it is hardly possible to use any other material than that which is found on the spot. This may be clay, sand, loam, or all together, arranged in their strata. Nothing is more common than to find a thickness of one or two feet of the stiff, black clay of the Mississippi valley, commonly called "buckshot" earth, overlying a stratum of nearly pure sand. Very frequently the reverse is the case, the lighter soil lying on the surface and the heavier beneath. Thus it may and generally does happen that the levee is not even homogeneous in each of its several parts, but is composed of widely different materials in all manner of varying proportions.

The pressure of water increases uniformly with the depth at the rate of about 62½ pounds per foot. It is nothing at all at the surface. Therefore, were the water always to remain absolutely still, could the greatest height to which it could ever come be accurately predicted, and could the embankment be depended upon to remain perfectly unchanged, the cross-section of the levee would be a simple triangle with merely enough base to give a weight that should keep from either overturning or sliding, which would be a matter of easy calculation, and of a height barely equal to that of the greatest floods.

But not one of these conditions holds

good. The water is lashed by storms and temporarily raised by winds, sometimes to a considerable extent. It has never yet been satisfactorily demonstrated what would be the maximum height attained by the water during a flood equal to that of say 1882. Unfortunately, in this and all other great floods, the levees have given way at numerous places before the culmination of the wave, and it is a matter of inference how much higher the water would have gone if perfectly confined. Previously to the present year the levees were in too imperfect a state and observations too scanty to authorize any positive conclusions. Very diverse opinions were entertained on the subject by eminent engineers, according as each laid the principal stress on one or another element of the problem. This year it is thought that a close approximation has been made, and that it is known, within a small fraction of a foot, how great an elevation would have been reached by the flood had all the levees held.

But floods are not all alike. Some come mainly from the Ohio, some come from the Missouri, some derive great accessions from the lower tributaries. Some come with great rapidity, as a single tremendous wave; some consist of a series of minor fluctuations, terminated perhaps by the greatest of all. Some come in February or March, some in June or July. These circumstances all exert a great influence on the relative height of the water at different parts of the river. Thus the flood of 1883 (a sharp one from the Ohio) attained a stage of more than 52 feet on the gauge at Cairo, and less than 44 feet at Vicksburg. The flood of 1890 (a succession of slow rises, terminating in two great waves) reached less than 49 feet at Cairo and more than 49 feet at Vicksburg.

It is impracticable, then, to fix with precision the greatest height at any point possibly to be attained by the water. There must, therefore, be a margin of safety allowed in prescribing the height to be given to a levee, not only on this account, but from a regard to the possible and highly probable prevalence of high winds and waves during flood. So, also, one cross-section can no longer be a triangle, running to an edge at the top. The crown must be broadened for greater strength and for the sake of a foothold for the workmen while putting up revetments or other temporary defenses against storms, as well as to serve as a base for a "topping" or raising of the levee in an emergency.

Again, earth will not maintain either its height or its shape unaltered, especially if exposed to the wash, percolation or pressure, or all combined, of water. Earth, when thrown into an embankment, suffers shrinkage, as it is technically called, which differs exceedingly according to the quality of the earth used and the method of construction, being greatest for dry clay thrown up with wheelbarrows and least for sand put in with scrapers. Engineers attempt to make allowance for this shrinkage, but at best they can make only rough estimates founded on an examination of the soil, and from a consideration of the mode of construction, the weather and all the circumstances, and there is always the possibility of error. Therefore, a levee will sometimes settle below its proper height without any extraordinary cause, and before the water has ever been against it. Rains assist in this deterioration by washing the slopes before they are firmly sodded.

But no matter how well an embankment be constructed, if it be built of earth alone, when water stands long against it it is subject to percolation, which softens and disintegrates the material. Earths, when thrown up and allowed to take their natural slopes, assume very different angles according as they are dry or wet, and different earths show a wide diversity of behavior in this regard. The general tendency is the

same, however. The wet slope is uniformly flatter than the dry. The floods of the Mississippi always last weeks and sometimes months, thus giving the water abundant time to penetrate the interior of the embankments. This it frequently does effectually, so that the whole levee is sometimes saturated.

Now, wet earth is as good to keep out water as dry, provided it can be made to maintain its form. That it may be certain to do this in the case proposed, the slope given to the earth must not be less than the normal "wet slope" of that earth, otherwise the bank will of itself tend to assume that slope, and widen the base at the expense of its height. Usually the first manifestation of such a tendency is the "sloughing" of the back slope, by which great masses of earth slide from the embankment and form a pasty quagmire at the foot of the slope. It is evident that a continuation of this process means eventual disruption. Fortunately the movement is not usually difficult to check if plenty of men and material are at hand. This, however, is not always the case. Earth is frequently very scarce in time of high water. Moreover, emergency work is very expensive and precarious; therefore it is best to build embankments at once to the required strength.

As has been previously stated, however, there is a great diversity in the soils composing the alluvium of the Mississippi valley, and three or four qualities are likely to be encountered in the construction of a single work—may, even to be intermingled in the same bank. It is often very difficult to decide which is the prevailing quality, much more to decide in advance, for the guidance of assistant engineers and contractors. In this uncertainty it has very commonly been the practice to build levees by a rough rule, supposed to be safe in the average of soils, of making the base of each slope, front and back, three times the height. The total base of the levee will thus be six times the height, plus the width of the crown, usually eight or ten feet. Levees of these dimensions will generally stand, with water to the very top, even in soils weaker than the average. Neither is it a great waste to give the same proportions to embankments built of stronger material, to wit, of "buckshot" clay, if put up loosely with wheelbarrows and exposed to the pressure of the water while yet "green," for such banks are very porous and apt to leak and slough if of inadequate dimensions. Still another reason for a broad base will be given in the sequel. In the absence, then, of definite reasons to the contrary, levees have usually been built with slopes of three to one.

Where there is great exposure to the action of winds and waves these dimensions are modified, the outer or front slope being made flatter and the inner slope steepened or not, according to circumstances. It has not usually been found good policy to make the back or land slope very steep, for fear of sloughing. After completion the whole work is sodded with Bermuda grass, which puts out lateral runners, taking root at the joints, and thus spreads rapidly, covering the slopes, in a year's time, with a thick mat of sod.

When a water works engineer is called upon to build an embankment for a reservoir, the first thing he looks to is his foundation. Though his dam be never so massive and tight, it avails him nothing unless it rests upon a secure bed. The levee engineer has seldom been able to take the same precautions. In the first place, they are not so obligatory. The water does not usually stand very high against his embankments, nor does it remain there the year round. He has an ample base. Experience had not formerly been understood as indicating the necessity of devoting special attention to founda-

tations. In short, a good bank placed on the natural soil has been thought sufficient. Usually, indeed, the means have not been forthcoming for any refinements of engineering. The urgent demand has been for earth, and more earth, piled higher and higher and yet higher as the system neared completion. The experience of 1882 seemed to teach that the principal danger to be apprehended was that of the actual overtopping of the levees, and of course the principal efforts have been made with a view of avoiding this imminent peril. With the advances in levee building, however, the more perfect confinement of floods and the new constructions on lower ground, caused by the caving of banks, the levees have had to stand a great deal more water than formerly, and defects in foundations have developed themselves, especially during the past spring, with unmistakable clearness, indicating the necessity for special attention to this detail.

That an earthen bank should be preserved from deterioration, the first and almost the only requisite is that it shall be made of earth only—that is, that no stumps, roots or other perishable matter should be left in it, or immediately under it, which by its decay should leave cavities or conduits. That it may preserve its "grade," that is, its proper height relative to high water, occasional repairs will be necessary, especially in situations where it is apt to settle, as in crossing the beds of old water-courses or the like.

A line of levees is, of course, not level from Memphis to Vicksburg, but follows the fall of the river. Now, this fall, or slope, is about a third of a foot to the mile, if taken in the average. Yet he would be a very foolish engineer who should take it for granted that the rate of fall was uniform and should build his levees on that supposition. The river, in fact, is divided into pools and rapids. In the pools the water surface remains nearly level, sometimes for miles, and in the rapids the fall is often as much as three or four times the average.

The reader has now some notion of what a levee should be. Levees as they actually exist do not, however, approximate closely to this ideal for reasons already mentioned. It is the constant effort of those in charge of the different districts to bring them, step by step, nearer to perfection, but they are still far from the goal, though well within sight of it. Knowing their systems to be imperfect, it is with anxious hearts that they face great floods, for the chance of disaster is present every day as a possibility or probability as long as the water is near its height, and the period of trial is sometimes lengthened into months.

The causes of breaks in levees, or crevasses, as they are generally called, after the manner of the Louisiana creoles, are manifold. A failure to comply with any of the necessary conditions of safe levees, as previously defined, may result: in a break. Most common of all is mere insufficiency of height. If water is allowed to run over a levee for any length of time it cuts gullies, which widen with tremendous rapidity, especially in sandy soil—this morning it is a thin stream, in an hour it is a cascade; this evening it may be a gap twenty feet wide, to-morrow it may be a thousand. Hence the "overtopping" of the levees by the flood is to be obviated by all possible means, and extraordinary exertions are frequently made with this end. If it be evident that a levee is too low it must be raised by any means that are at hand. A very common way is by placing plank on edge, two or three courses, if necessary, nailed to short posts, and backing them with earth. This expedient is also well known to the Dutch, who call it *opsteking*, or boxing up, and use it in emergencies, which in their case are usually ice gorges. Loose earth does very well when it can be had in abundance, provided there is no exposure to winds, and provided the crown is wide enough to bear the additional quantity. Sacks sometimes are made to answer an excellent purpose, and can be made into a water-tight wall when well piled and laid carefully in tiers. Many a mile of levee has been triumphantly held in these ways when the water was two feet or more above the top of the old embankment.

[TO BE CONTINUED IN OUR NEXT.]

A GREAT STEEL PLANT.

Contracts Closed for the Tred- egar Steel Works.

Two New Brick Works Secured— Other Enterprises Promised.

[Special Cor. MANUFACTURERS' RECORD.]

TREDEGAR (P. O. Jacksonville), ALA.,
October 4, 1890.

This has been a week of great interest to Tredegar, and, for that matter, to all Alabama, for it has witnessed the final closing of every detail for the location of the most gigantic industrial enterprise that has yet been established in the South. The contract for the great steel plant, which has previously been mentioned in the MANUFACTURERS' RECORD, has finally been fully ratified in every particular, and bond given by the contractors for the completion of the whole plant within 19 months from the 1st of October. It will require rapid work to accomplish this, but the contractors are men who are fully able to do it. The contract calls for three furnaces, each to be 117 feet high, 26 feet and 8 inches at base and 20 feet at top, a stack 210 feet high and 15 feet diameter at the base, rolling mills for rolling the entire product into finished shape, the construction of all necessary buildings for the furnaces, rolling mills, &c., and the entire equipment of machinery, such as boilers, engine, rolling mill machinery, &c. A deed for 100 acres for the site has been made by the Jacksonville Land, Mining & Manufacturing Co and duly recorded. The buildings will cover in the aggregate about 20 acres, and additional room will be needed for side tracks, storage yards, &c. The steel company owns splendid ore property less than one mile from the site of the plant, and the grade is such that tram cars can be run from the ore mines to the furnaces by gravity. Immediately upon the final closing of all the details of the agreements telegrams were sent for the prompt shipment of all necessary contractors' tools and machinery for the prosecution of the work, and just as soon as these arrive there will be great activity in pushing the work.

The location of this plant here will prove of immense value to the whole State. The South is now to enter the era of steel making, and in this line it will soon hold as commanding a position as it now does in iron production. Tredegar leads off in Alabama with this plant, which will carry the making of steel from the first stage of mining the ore until the finished product, ready for final use, is reached. The construction of the plant, including the buildings for rolling mill, etc., will require nearly 20,000,000 bricks, and to make these a \$100,000 brick-making plant has been contracted for, to be established here by Washington capitalists.

The steel works when completed and in full operation will give employment to over 3,000 hands, three-fourths of whom will be skilled workmen in the finishing departments. This means a big town of itself, for 3,000 mechanics would represent a population at the very lowest of 12,000 people. Moreover, arrangements are pending for other large enterprises, which will probably soon be definitely closed.

The new cotton-seed oil mill and ginnery is nearly completed and will soon go into operation, thus furnishing a home market for the cotton-seed of this splendid cotton district.

A. G. Hester, lately of Ohio, is now here putting up buildings for his new brick works, which will soon go into operation. The capacity of these works will be 25,000 bricks a day, to be increased as the trade demands. There are few, if any, places in the South with better brick-making clay

than Tredegar, and the Republican of this place says: "There is the greatest abundance of both good brick clay and sand on every side of the town, and it is not improbable that a third brick plant may go up here within the year. Such a thing is being discussed by parties who have the money ready for the enterprise. There will be a use here for all that can be made."

The outlook for Tredegar is indeed bright.

Middlesborough Coals.

MIDDLESBOROUGH, KY., Oct. 6, 1890.

Editor Manufacturers' Record:

By the courtesy of General R. A. Alger we are permitted to publish the following report in regard to Middlesborough coals, made by his expert, Mr. Curtis, who accompanied him on his recent trip to Middlesborough. This report was intended for General Alger's private use, but it was so flattering that he generously consented to its being made public:

"I have the honor to submit a few notes of our recent visit to Middlesborough, Ky., and the results of my analyses of the coal and iron specimens that I myself took from the different headings. To compare with my results I give averages taken from different authorities. I also give a copy of a little sketch taken from the Engineering and Mining Journal, which will give you a very clear idea of how favorably Middlesborough is situated in the midst of the immense resources of coal, iron and other minerals. The upheavals of the country at this point seem to have placed these stores in the most accessible manner for cheap production.

While coal and iron ore exist in many parts of the great chain that extends from Pennsylvania to Alabama, yet large portions are barren or so distorted that the coal is uncertain and worthless.

At Middlesborough the coal seams appear, from the work that has been done on them at the Mingo and Ralston workings, to be very evenly laid down over fields, and the headings enter the coal with a gentle rise of about one foot in a hundred, making underground transportation easy. The coal is very generally free from slate and iron pyrites. It is divided into two seams with 1½ inches of parting slate between, thus facilitating the exploitation of the coal.

There are eight workable seams above water level, giving about 30 feet of solid coal. The seams vary from 22 to 72 inches at the Ralston mines, and crop out from 200 to 600 feet above the railroad.

The coal has been tested by double entries driven in from 250 to 750 feet at points 1½ miles apart, while the croppings extend for 2¾ miles, with a depth of 1½ miles, making the possible tonnage immense even in this one tract. These workings show a regular seam of fine bright coal for the most part, nowhere less than 4½ feet thick. Its qualities may be seen from the following analyses (Courties):

	Ralston mines.		Mingo mines.		Nier mines.	
	1.	2.	3.	4.	5.	6.
Water.....	1.700	1.750	1.660	38.10	1.290	
Vol. matter.....	35.720	35.750	33.877		31.910	
Fixed carbon.....	59.615	60.800	58.717	59.50	65.020	
Ash.....	1.900	1.700	5.700	2.40	1.400	
Sulphur.....	.....	.....	.....	0.494	0.360	
Phosphorus.....	.....	.....	.....	.....	0.018	
Ash.....	.....	.....	.....	.....	.....

* Total sulphur not accurately determined, as reagents on hand proved impure, but it is very low.

The coke appears to be strong and bright. As a flaming coking coal this will answer the requirements of every industrial purpose.

Of the favorable location, beautiful scenery and natural advantages of Middlesborough there can be no doubt. Already a sufficiently large plant with its allied industries to use a large output has been secured, and development has progressed so far that the result seems to be beyond speculation."

GENERAL NOTES.

THROUGH the courtesy of Marion J. Verdery, the well known and able Southern journalist and correspondent, we have been favored with a copy of the very neat prospectus of the North Augusta Land Co., of which Hon. Patrick Calhoun, of Atlanta, is president, and Samuel J. Harriot and Ernest Groesbeck, both of New York, are, respectively, vice-president and treasurer. The gentlemen associated with them in the directory are all of high standing in financial and business circles in New York and the South. This company's purpose is to develop 6,000 acres of land in South Carolina, opposite Augusta, Ga., with a frontage of more than a mile on the Savannah river. This property rises by a series of natural terraces to a table land 400 feet higher than Augusta, from which the distance is less than 2 miles. A contract has already been made for the construction of a bridge across the river to the city, which is to be of artistic design and ornamental finish. Visitors from the North to the Augusta exposition of two years ago were charmed with the situation and possibilities of this splendid property, and wondered that its development had not been undertaken long ago. All such, as well as the people of Augusta, will be glad to know that it has at last fallen into the hands of men of known enterprise and abundant means, who intend to improve it by converting that beautiful site into a great manufacturing and residence city.

A CORRESPONDENT of the Sheffield (Ala.) Enterprise announces on the authority of Messrs. Cullman and Luedemann, of Tusculumbia, the celebrated gun maker of Essen, Germany, in company with other gentlemen representing large mineral interests in various parts of Europe, will visit Alabama some time this month for the purpose of inspecting the iron development of that State. The gentlemen named derived their information from a German paper. As Mr. Krupp has recently been spending several weeks in Canada, there is some reason to believe that this statement may be well founded.

GREAT opportunities for making money in the lumber business abound upon the banks of all the streams of the extensive mountain region surrounding Cumberland Gap and Middlesborough. A correspondent at Tazewell, Tenn., writes that while lumber is in active demand in these growing cities at from \$15 to \$25 per thousand, yet logs can be bought on margins of the streams thereabouts at from \$5 to \$8 per M.

BRIDGEPORT, ALA., is to receive a great impetus. A New York syndicate that includes such famous men as Robert Bonner, the retired publisher, A. B. Claflin, head of the great dry goods house of that name, Mr. Cornell, of the Cornell Iron Works, and Mr. Delamater, of the Delamater Iron Works, have purchased all the rights and titles of the original company and organized a new one under the name of the Bridgeport Land & Improvement Co. with a capital of \$5,000,000. It is announced that the officers of the new company with a party of friends will leave New York this week for a trip to Bridgeport, where they will take formal possession of their purchase October 15th. This company has, it is said, several new enterprises of magnitude under advisement.

THE next semi-annual sale of the Middlesborough Town Co.'s lots will commence Monday, November 10, with R. E. Edmondson, auctioneer. The population of Middlesborough in May, 1889, numbered only 50, while last August it had reached 6,200 souls. The plants now under con-

struction, when completed and in operation, will add several thousand skilled workmen to those already employed. The rapid and solid growth of Middlesborough has attracted general attention, and will unquestionably draw crowds of investors to the coming sale.

THE anniversary edition of the Times-Register, of Salem, Va., issued last week, was an exceedingly creditable specimen of journalistic enterprise, as well as a handsome tribute to the lovely and flourishing city in which it is published and of which it is the intelligent advocate. A large edition was ordered for distribution by the local land companies and real estate agencies, they thus expressing in a practical form that all newspapers appreciate their estimation of the enterprise of the publishers and editors of their home journal. This edition abounds with facts about Salem as it was and Salem as it is, and confirms by data that cannot be controverted all that has been told in the MANUFACTURERS' RECORD of the solid growth and the brilliant prospects of Salem.

THE Alleghany Mining & Development Co. has secured 550 acres of land in Virginia on the line of the Chesapeake & Ohio Railroad, and separated from Peters mountain (on one of the spurs of which the "Donthal survey" is located) by Jackson river. All around this location are iron mines and furnaces in which many operatives are employed and much capital is invested. It is the intention of the company to build upon both sides of the railroad a manufacturing and trading town that shall be the center of the surrounding mineral district that will shortly have, within a very compact radius, at least 12,000 wage-earners who will naturally go there for all their family supplies. As the Chesapeake & Ohio Railroad Co. is expected to expend a million dollars on a plant that will require 1,200 workmen it is about to establish on land contiguous to this town site, and as many thousand people are already employed in mines surrounding this point, the expectations of the Alleghany Mining & Development Co. would seem to be well founded.

THE Galveston (Texas) Daily News published a trade review October 1, showing that that important Gulf port maintains the position it has long held as a prosperous commercial and manufacturing city. During the last cotton year it exported 858,496 bales of cotton, valued at \$42,840,000; wool to the value of \$3,000,000, and other articles included, a total valued at \$47,621,900. The home trade of its merchants amounted to \$37,015,000. The value of its manufactures during the same period was \$4,915,500.

THE annual trade review of the Augusta (Ga.) Chronicle has been received. Col. Patrick Walsh, its indefatigable editor, is to be congratulated on the splendid showing he and his able corps of assistants have been able to make for their city for the year ending September 30. Augusta has been truthfully called "the Lowell of the South;" but she is much more. Her volume of business during the last year was \$69,950,000, a gain of \$10,450,000 over the preceding year. During the last season Augusta handled 204,000 bales of cotton, worth \$10,000,000, 80,000 of which were spun in her twelve great mills, which made 87,000,000 yards of cloth and 2,000,000 pounds of yarn, worth in the aggregate \$6,000,000. This industry employed 4,500 people, among whom \$1,000,000 in wages were distributed. Other statistics show that all kinds of business in the city are flourishing; that the public spirit of the citizens is as active as ever, and the course of Augusta is upwards and onwards.

The Yesterday, To-day and To-morrow of Buena Vista, Va.

[Written for the MANUFACTURERS' RECORD by Thomas P. Grasty.]

Buena Vista is virtually only a year old; but it is nevertheless one of the wonders of this wonderful decade of industrial development. It was the pioneer iron town in Virginia, and in many respects is still the pioneer. I shall now endeavor to tell its story—its yesterday, to-day and to-morrow—in my own plain, every-day way; for of the stereotyped "write-ups" of towns and land companies I entertain so vigorous an aversion that I would fain put them in the litany's list of things from which good churchmen are wont to say, "Good Lord deliver us."

The story of Buena Vista is so extraordinary, so unique, that if it should be told by word of mouth to the good people of any of our old-way-built towns, nine out of ten of those who listened would incredulously shake their heads unless the narrator enjoyed a singularly solid reputation for truth and veracity. Had Missouri or Nebraska or Kansas produced such a town as Buena Vista it would have caused a sensation whose vibrations would have been felt from ocean to ocean. The creation of such a town, however, in any strictly agricultural country would have been a physical impossibility; for there is a certain and well-defined limit to the growth of towns dependent upon mere country trade, whereas to the growth of a place like Buena Vista, with enough raw material at hand to supply many States with merchantable commodities, and with nearly every conceivable advantage for manufacturing those commodities, there is practically no limit. Therefore, extraordinary as has been the progress made here during the last twelve months, it is no more than conditions, rather than theories, guaranteed at the time the town was started. And yet, although the quality of the iron ore here was even then well known, the immensity of the deposits was not fully realized till recently—till systematic exploitation had proven that the geologist's survey had been rather "bearish" than "bullish;" that Dr. Wm. H. Ruffner, in his conservatism, understated the amount by a percentage which will be worth many millions of dollars to the Buena Vista Co.

And right here I desire to say, that in preparing this article my main motive is to show—first, that Virginia is the coming State of the Union; and secondly, to show that my predictions made a year and a-half or more ago in the MANUFACTURERS' RECORD were not mere vaporings. The truth is, I began my work as a writer on the new Virginia with an account of the organization of this Buena Vista company in the old Franklin library-room at Lexington. That was when the snow of two winters ago was on the ground, and when, with the exception of Roanoke, no organized effort had ever been made to build a city on land hitherto considered valuable only for raising corn and cattle.

Buena Vista was, as I have intimated, really the pioneer iron town in Virginia, and when its future is considered it is to-day as much a pioneer iron town, with all its industries, as it was when its site was virtually a wheat field; for, while a year ago it had only about 300 inhabitants, and now has about 3,000, in five years it will have instead of its present 3,000 at least 30,000. This prediction will perhaps call forth criticism, as my prediction made a fortnight ago that Roanoke would have 100,000 inhabitants in five years called forth criticism, but they who criticised that prediction, and who may criticise this one, are men who have never given a moment's study to the great question of population

distribution—to this question, "What will become of the eighteen or twenty millions which will be naturally added to the Union's population within five years?"

Of course, it is gratifying to me to see this town forge forward; for, like most men in public life, whether they be politicians, actors, preachers or newspaper men, I am flattered by seeing my predictions materialize. And, while it is true that on that wintry day at Lexington, when the iron-laden mountains back of the Green Forest and Hart's Bottom farms were knee-deep in snow, I wrote my initial article for the MANUFACTURERS' RECORD predicting a city on these self-same farms, and also true, as I have time and again stated in my communications concerning Buena Vista, that its promoters are my personal friends, and likewise true that the first foot of ground I ever owned was a lot in Buena Vista, nevertheless my partiality will not tempt me to disfigure my reputation as an industrial writer by a single exaggeration in telling of this wonderful town.

As I stated a moment ago, the first time I saw the place it consisted of two farms, of B. C. Moomaw's residence (the old Glasgow homestead), of one of the several Virginia tanneries owned by Appold Bros., of Baltimore, whose operatives and those of a pulp mill at the lock on the river constituted the entire population. It had one store, whose stock was so limited that I had to throw away a cigar I bought there, although in sore distress for a smoke. The postoffice was called "Green Forest."

At that time, strangely enough it happened that John R. Procter, Kentucky's world-renowned geologist, was in Lexington, Va., whither he had been called by the illness of a son who was a cadet at the Virginia Military Institute. I went down to see him, and took with me Mr. Frank T. Glasgow, the attorney for and a member of the directory of the Buena Vista Co., which had been organized only the day before. I had known John R. Procter for many years, and had such implicit confidence in his scientific judgment that I suggested that he be employed to make a survey of the mineral lands then only optioned, but subsequently purchased by the Buena Vista Co. Within a few days he went to Buena Vista and made a thorough reconnaissance of the situation. It is to be regretted that he never wrote out his report. This omission was due to the fact that he lost his notes, and before he could find them to make a second visit, Dr. Wm. H. Ruffner—next to Jed Hotchkiss, Virginia's most famous geologist—had begun his survey, of which I shall have more to say directly. However, in view of my belief in the future of Buena Vista, I took occasion in the interim to interview Col. Procter in Kentucky, and he told me that never in his life had he seen such a show of high-grade iron ore as at Buena Vista, and then went on to say that he thought the situation the most admirable for a new city that he could conceive of. Indeed, he declared, in effect, that if he could have had delegated to him from the Almighty the privilege of creating topographical conditions he could not have improved upon the lay of the land at Buena Vista, no matter whether it should be considered from a standpoint of beauty or of healthfulness or of general utility. This was in the spring of 1889, and directly afterwards I wrote the article which appeared in the MANUFACTURERS' RECORD under the tautological heading, "Beautiful Buena Vista," an article which, in spite of the tautology of its head, did more than any I had up to that time ever written to accentuate the money-making possibilities

in the great belt, of which Roanoke is the center, and which within five years will have its population augmented by at least a million.

Until yesterday, for nearly a year, I have been unable to pay Buena Vista a visit. But when I did come, I came resolved to study its conditions like a painter "surveys a landscape o'er" and to report those conditions just as a railroad expert makes a report of a line which he has been employed by a syndicate to "size up;" or, better still, like the representative of a capitalist who has been sent out to find good things to buy and bad things to let alone.

How Buena Vista Appears To-day.

On my arrival a day or two ago at Buena Vista the first thing that impressed me was the general air of activity and prosperity which the business streets presented. The next thing that I noted was the great number of manufacturing plants in course of construction and the superior quality of the residences and business blocks. At most of the new towns the stores are little better than sheds, and the residences little better than shanties. Here, however, everything is being builded on a basis of an assured large town. In fact, it struck me that every man who has built a house in Buena Vista had been up to the mines and seen the vastness of the ore deposits. On and near the plateau, near the new and magnificent hotel now in course of construction, there are residences going up superior to those in most old towns that have fifteen or twenty thousand inhabitants.

The first place I went to see was the furnace, of which I shall have more to say directly. Then passing the great tannery and the saddle factory and the planing mills, I went up to the finest paper mill in the South. Then I came back to where they are building the new hotel. On this plateau, from which all Buena Vista may be overlooked, and which is destined to become a site for the homes of many millionaires, there is being built a hotel which is to replace the one burned down last spring; but the new hotel is to be of stone and brick for two stories, and then of wood, and in all other respects better than the one it replaces. Lots facing the park surrounding this hotel are now worth \$30 a front foot, and it is my belief that before New Year's Day these lots will sell up to \$50, for, in addition to its great accessibility by rail and its enormous importance as a manufacturing center, Buena Vista is destined to become one of the favorite home-towns in Virginia; for its climate is peerless and its environment actually entrancing.

Appropos of real estate values, there is nowhere in the world a place where profits are more certain to purchasers of lots at present prices than Buena Vista. In my opinion, the lots between the new hotel and the Union depot will average \$100 per front foot, even on Chestnut street; for, while a good many residences have been erected in this area, it is all ultimately destined to become strictly business property. The proper place for residences is on the hills. There is only enough of level land in the town-site for purely business purposes. It was a mistake ever to build a dwelling on the flat ground between the manufacturing establishments and the railroads on the one side, and the foot-hills on the other. This, however, is merely an individual opinion, which I will expand to the extent of suggesting that future schoolhouses and churches be located with due respect to it, for the present magnificent public school building is sure ultimately to become an office building or a theatre on account of its occupying a block fated to become a center of commerce. So, too, of several churches. The truth is, the builders of Buena Vista, like the first-comers at Roan-

oke, figured on a much smaller town than will soon be materialized. Inasmuch as I have up to this time had my predictions *pro tanto* verified at Buena Vista, I feel justified in giving this pointer to investors: "All the land between the river and the hills, and between the new hotel and the street on which stands the Collonnade Hotel, will be needed for business purposes, and is worth, on an average, at least \$100 a front foot."

Speaking of the value of business property recalls an interview I had some years ago with my friend, Col. Joseph F. Johnston, the president of the Alabama National Bank, of Birmingham. Said he, "Business property is worth just what rents will pay interest on when it is built upon. In a city of thirty thousand there are always twenty-five or thirty blocks where houses of 25 feet front and two stories high, costing \$2,500, will bring, upstairs and down, \$100 a month. That is 10 per cent. interest on \$12,000. You can, therefore, pay \$7,500 for a lot." Now, \$7,500 for a 25-foot lot is \$300 a front foot. Put up a three-story house costing \$4,000, and your rents will run up to \$150 a month, or \$1,800 a year, and at 10 per cent. that will justify paying over \$500 a front foot. I am, therefore, satisfied that for the purpose of pure investment, eliminating all prospect of speculation, there is little or no ground in the area above indicated, which is not worth at least \$200 a foot. It can to-day, however, be bought for an average of \$25 a foot.

But that is not the question; for I started out to tell of Buena Vista's past, present and future, and not to discuss real estate possibilities. All the same, however, none out of every ten of the readers of this article are liable to be more interested in the chances of making "the Dutchman's one per cent." than in anything else that I could tell about. To all such I am free to say that at present prices the aforesaid "one per cent." is certain on investments made at the present time. And this is true not only of the future business district as above outlined, but of residence property in Buena Vista. Unlike at most towns, the area available for business and residence purposes at Buena Vista is limited. On one side is the river, backed by a cliff—and all property across the river must remain for years in abeyance—while on the other side is a mountain, or rather two or three mountains, lovely to look upon, rising in peaks from the inclined plane below. Up the river a high hill rises almost abruptly about half a mile above the present business center. Down the river the entire area available, including the town-site of the Loch Laird Estate & Mineral Co., known as Saverlake, does not amount to enough to meet the demands of the town for even the next ten years. Therefore, the business and manufacturing district at Buena Vista must be set down as covering all the level land up and down between the points where the hills jut up to the river's brink.

Before going into details concerning the existence of industries I desire to add the views of Mr. Armistead C. Gordon, who enjoys a wide reputation from having been a collaborator with Thomas Nelson Page in the famous book uclept by Page "Befoh de Wah." He is president of the Buena Vista Street Railway Co., and was president of the company which built the first house in the town under the new regime. He has given great attention to the resources of Virginia, and therefore his views are entitled to consideration. I asked him to give the foundation of his faith in this place. "I regard Buena Vista to-day," said Mr. Gordon, "as the most promising as it is the most advanced of the new Virginia towns. I believed in it

on the day when I first subscribed for its stock, because I had faith in the industrial future of the South, and especially of this section of the South. I believed in it because I knew from the work of Rogers and Ruffner and Hotchkiss and Fontaine and Campbell that the raw material in lavish exuberance was here in the the ground and on top of the ground; because I knew that the markets were near at hand, that the railroads were here, that water-power existed in prodigal abundance, that labor was cheap, that God smiled on us from a sunny sky and tempered his winds to us with a superb climate, and because I knew the indomitable pluck of the Virginian when once roused from lethargy, whether it be to fight a battle or to build a city."

"I had seen bleak New England," continued Mr. Gordon, "grow rich from the raw products of the South; I had seen Pennsylvania pocket millions drawn from mines no better than ours; I had seen Massachusetts money build a great city on the inclement shores of Lake Michigan, and I had seen the wintry and wind-swept Northwest congested with the affluent population and wealth of Europe. I believed that the time was coming when the world would recognize that our advantages of iron, and coal and timber and markets and labor and climate and courage and brains were not inferior to those of New England and Pennsylvania and the Northwest, and that what had been done there could be done even better here. With this belief I thought that I saw in the organized effort to build Buena Vista in the rich heart of the new Virginia an heraldic proclamation of the march this way of a great armament of miners and manufacturers and capitalists and workers with hand and head, who have money and knowledge and energy and skill for their weapons, and the light of whose camp-fires would be the forges and the furnaces, and whose ensigns would be the towering stacks of factories and plants. I build my faith on Buena Vista because I knew the men who were in charge of the movement; because I knew the temper of her iron tried at Chapultepec and Monterey; because I knew that the earth and the air and the things under the earth had conspired at this one spot for her advancement; and because I believed that in the Providence of God this valley, once blighted and made barren by battle, and wet with the unavailing tears of sacrifice, was destined to be recreated, reinvigorated and restored by the brains, the brawn and the money of the men who laid it waste in the dark days of 1861-64."

Before telling about the new hotel, the mines, the furnace, the paper mill, and other important plants in operation and under contract, I desire to say a word concerning the clean-handed management which had as much to do with Buena Vista's growth as all her natural advantages; for I might name, had I a mind to, some wonderfully favored locations which are being so handicapped by mismanagement that it will take years and years to restore lost public confidence, and public confidence is just as essential to a new town as to a bank seeking depositors. Mr. A. T. Barclay, the first president of the Buena Vista Co., is still the general of the great army of progress here congregated, and he is doing a work which will radiate through the entire State, for every signal success in Virginia in the way of town building means increased confidence in Virginia enterprises generally. Mr. Barclay, however, has been actively aided by several members of the board of directors, especially Mr. B. C. Moomaw, who has devoted the bulk of his time to promoting the prosperity of the place without fee or reward.

Another matter worthy of special accentuation is the intrinsic value of the

stock of the Buena Vista Co., as shown by its actual assets. I have taken pains to look into the exact condition of things, and there is not a shadow of doubt but that the company's convertible assets exceed its liabilities by more than a million and a-quarter of dollars, and in computing liabilities I exclude the capital stock at par. Indeed, beyond this it has no liabilities worth mentioning. The unsold lots in the present site (many of them very valuable), which will be sold in a jiffy at the great public auction sale on November 5 and 6, are worth more than the entire present capitalization. The company's mineral lands and unplatted residence lots (which need only to be surveyed to come into immediate demand) are easily worth a million. Its reservations in present town limits, its magnificent new hotel, are well worth far on to another million, to say nothing of its cash on hand, bills receivable, stock in other companies and the like which show up most healthily. The fact is, Buena Vista stock is easily worth four for one, and it is only a question of time when it will be so quoted in the markets.

MINING THE ORE.

The Quantity Exceeding Dr. Ruffner's Estimate.

As Buena Vista was originally started on the theory of a vast deposit of iron ore, it is a matter of paramount interest to know to what extent practical operations are fulfilling the geologist's report. To the inexperienced observer there is apparently enough ore in sight to run a furnace for all time to come; but the expert observer has very little idea of how much ore it takes to run a "100-ton furnace" a fortnight, much less a year. Therefore I took occasion to interview Mr. W. A. Given, superintendent of the mines, who came here from Birmingham, Ala., where he was mining engineer and superintendent of mines for the Morris Mining Co. and J. W. Worthington. I asked what progress had been made getting ready for the furnace, which is soon to go in blast. "We have built," said he, "a mile of railway (standard gauge) from the furnace to the ore washer, and 1½ miles narrow gauge from the washer to the various openings. We are now working four open cuts with a capacity of from 60 to 75 tons each per day. We have a shaft in the famous "water-hole," capacity 25 to 30 tons, and a tunnel in the "Hayes bank" of the same capacity. We have on hand about ten thousand tons awaiting the completion of the furnace. There is also," Mr. Given went on to say, "a shaft 5½x6 feet with a two-foot 'man-way,' which is down 110 feet. At a depth of 100 feet in this shaft we have started a double tunnel, which will intersect at right angles all the measures in mineral ridge. This tunnel, however, is a developer which I am preparing for spells of bad weather, when we can't well work the open cuts. Then, too, I have three other open cuts all stripped, which can be worked to an output of 100 tons of ore a day."

I asked Mr. Given how Dr. Ruffner's report was being verified. "I find that report," he replied, "very correct so far as I have gone, but the discrepancies have all been on the right side. In other words we have ore which Dr. Ruffner omitted to indicate. Indeed, all my work proves that Dr. Ruffner underestimated the quantity. The report, however, with that exception, is one of extraordinary accuracy; for instance, at what he calls the 'Glasgow bed' and considers the 'mother vein' of all, but which had never been opened here, I found a width of 13 feet within 20 feet of the line on his survey and only 5 feet from the surface."

"I have enough ore now exposed," he proceeded to remark, "to run the furnace

for 3 years, and am satisfied as a mining engineer that Dr. R.'s report, in its entirety, will be more than verified as the work goes on. As to the cheapness of mining here, I venture to say that, the quality of the iron considered, these ores will be put into the furnace nearly as cheaply as any now being used at Birmingham."

A MODEL FURNACE.

Some Opinions of Mr. F. B. Richards Concerning the 100-Ton Furnace and the Ores It Will Smelt at Buena Vista.

Mr. F. B. Richards, a young but noted furnace man, who has had experience with Mr. Carnegie and at the furnaces at Youngstown and Cleveland, is the manager of the Buena Vista furnace, which is owned and will be operated by a company of which Mr. Clarence M. Clark, of Philadelphia, is president, and S. H. Chauvenet, vice-president, the latter having been long identified with the furnaces about Lebanon, Pa., which he managed with signal success. "Our furnace," said Mr. Richards, "will be ready for blast by November 1. It is 70x16, with Whitwell stoves 60x18, with blowing engines built by the contractor, James P. Witherow, of Pittsburgh, of 5-foot stroke and 36-inch cylinder, 84-inch blowing tub, 12 boilers, 2 boiler-feed and 2 circulating pumps, water tank 64x12. All the iron and brick work is being done by Witherow."

"Mr. Jas. S. White," he proceeded to say, "had an article running through the last two numbers of the Iron Age, in which he describes the general arrangement of a model blast furnace. That description is an exact one of this Buena Vista furnace. The 70x16 size stack has been practically proven to be the best for using our Southern cokes. The capacity of the furnace is 100 tons."

Speaking of the ores he said: "I feel warranted in saying that from what we now know of the ores at Buena Vista, we shall turn out an iron which, in respect to its minimum of phosphorus, will compare favorably with the standard foundry irons of the North; hence, any mill-iron from the same mixture would be neutral or very nearly so."

In this same connection, Mr. Richards went on to say, "I think our ores are specially adapted for the manufacture of pig metal, to be used in the open-hearth basic process. Combining, as these ores do, low percentages of phosphorus and alumina, we can easily manufacture a pig carrying from 4-10 to 6-10 per cent. of phosphorus and less than one per cent. in silicon."

Referring to the quantity of ores in the Buena Vista property, Mr. Richards, who is extremely conservative, and, like myself, more of a "bear" than a "bull" on all alleged enormous deposits of iron ore, said: "After studying the property for some time in formulating a general plan for development, I was impressed with the persistency of the beds of ore running across the property for several miles, as shown both by surface indications and test pits sunk on the ore. The beds running approximately parallel and within a short distance of each other, can be tapped at many places at the same time by open cuts, close together, thus concentrating the work and not requiring a large output from any one face of work to meet the requirements of the furnace. The development by cuts has been very gratifying, and we propose to have enough of them, so our output may only be limited, to a certain extent, by the amount of labor we can work in the cuts. From indications, so far, I do not think we need worry about our ore supply for some time at least." And by this I am sure Mr. Richards meant a great deal more than most men would have meant by saying forty or fifty years.

BUENA VISTA'S PAPER MILL

Huge Rolls for Webb-Perfecting Presses and Other Kinds of Paper Now Being Made at Buena Vista.

For some years past there had been in operation at the dam, just above the old Green Forest homestead, a successful pulp mill whose product had grown in favor till its capacity was inadequate to supply the demands. This formed the nucleus of the magnificent paper mill which, although it has been going but a few months, is already getting more orders than it can fill. The original pulp mill, however, has been moved to the dam above. Its present output is ten tons a day, but it is built so that by the mere addition of another 92-inch Toudrinaire machine (which will be done next spring) its capacity will be 20 tons. The dam built for the lock of the old James River & Kanawha canal furnishes the water-power, a minimum of 400 horsepower, which, under a 60-year lease (which includes the land and valuable masonry, as well as the water-power proper) costs but \$200 a year!

There is a great deal of talk about the new industries at our new Southern towns being mere experiments, accompanied, I regret to say, not unfrequently by insinuations that they are built for advertising and booming rather than producing purposes. This paper mill is a signal example of the absurdity of such an idea, as, for that matter, are all the industries so far put into operation at this veritable beacon of Virginia's possibilities. As has been stated, the orders placed for the product of the Buena Vista mill so far exceed its capacity that the mill is to be increased from a 10-ton to a 20-ton mill. The chief style of paper made here is newspaper in the form of large rolls, which are used by all the big dailies. The quality of Buena Vista "news" is pronounced without a superior. There is also made here "book," manilla and blotting paper.

Philadelphia is now taking the bulk of the product of this mill, and in connection with Philadelphia, it is pertinent to state that the wood for pulp costs only \$4 per cord laid down at the Buena Vista mill, as against \$11 at the Philadelphia paper mills.

The buildings have a railroad front of 300 feet, and the machinery is of the very latest pattern. Mr. L. A. Sadler, the general manager, who was for eight years with the Richmond (Va.) Paper Co., considers this location without a peer for paper manufacturing, because, to use his words, there is "simply an inexhaustible supply of wood (second-growth poplar) within a few miles of the mill." There are now employed 50 operatives in the paper mill and 15 in the pulp mill. It is probable that in addition to the assured doubling of the capacity of the present mill, another large mill will be built on ground adjacent, which is embraced under the 60-year lease of the dam and water-power.

SOME OTHER INDUSTRIES.

Among the numerous paying industries now in operation the Wise Wagon Works, employing 40 men, especially illustrates the healthy condition of things at Buena Vista. This concern is only six months old, but is running on full time, and its orders are constantly increasing. It is the exception for wagon works to pay from the outset, even under the most favorable auspices.

There is a woolen mill here with a main building 221x57 feet, and its machinery is now being placed. By November 1 it will be giving employment to about 75 operatives.

The Sea Furniture Factory, a three-story building 75x150, is nearly finished, and will be going at full tilt within 30 days.

Of Appold's great tannery here and the saddle factory, both for some time in oper-

ation, and two or three planing mills and brick-making concerns, it is unnecessary to say more than has been said heretofore in the MANUFACTURERS' RECORD.

A BIG OHIO CONCERN.

The Alex. K. Rarig Machine Works Coming to Buena Vista—The Steel Plant, Glass Works, Woodworking Plant, &c.

The Alex. K. Rarig Machine Works, capital stock \$300,000, on a dollar for dollar basis, is to be a Buena Vista plant larger than anything of its kind, except the Roanoke Machine Works, in Virginia. This was a Columbus (Ohio) concern, whose trade was largely in the South. It has heretofore done a large business, giving employment to several hundred skilled workmen, but the new works here will have a capacity for the employment of a thousand.

The main building is to be 387x125 feet. This is the machine shop proper. The foundry is to be 275x125; the boiler shop 250x125; the blacksmith shop 100x125; pattern shop 50x125; with an engine and boiler room 40x70. The business of the company will be the construction of engines and boilers of all kinds, mining machinery, clay machinery, with blast furnace work a specialty.

The original steel plant, with a capital of \$300,000 (two-thirds of the amount necessary to start with on the plans first proposed having been subscribed), will doubtless be combined with a rolling mill (to roll basic steel), and the consolidated plant will have a capital stock of \$500,000. The plans for this splendid plant are being matured as rapidly as possible, and it is expected that work will be begun within a short time. The number of skilled workmen the proposed combination will give employment to will exceed 500.

Tests made all over the country of Buena Vista fire-clay have so fully demonstrated its availability that the company organized some time ago to manufacture fire-brick here on a large scale will soon begin operations. Mr. Pettyjohn, of Lynchburg, is president of this company, which starts with an actual capital of \$100,000. Mr. Gordon Payne, of Adams Bros. & Payne, the heaviest brick firm in Virginia, has been giving special attention to the work of testing the merit of this fire-clay.

Among prospective enterprises of moment is one with Dr. W. H. Ruffner, as president, to manufacture glass. The capital of the company is \$200,000. The glass-sand, which analyzes 99 per cent. pure silica, with only a trace of iron, to be used in these works, will come from a few miles north of Buena Vista on the Shenandoah Valley Railroad.

But it is impossible to tell more of Buena Vista's story in this issue of the MANUFACTURERS' RECORD.

Prosperous Virginia.

WAYNESBORO, VA., Sept. 27, 1890.

Editor Manufacturers' Record:

General conditions as indicated by crop prospects, general industrial activity, and those various elements which conspire to establish confidence and incite to business energy, have not for many years been so good in this section as at the present time.

Our farmers are mainly out of debt. The general summing up of the results of the current year's labor has shown satisfactory results. Mechanics of every kind are in good demand at remunerative prices, and a general era of prosperity and a feeling of confidence as to the future evidently prevails. Our railroad towns are growing rapidly; industrial enterprises are being located and developed, and satisfactory profits are obtained by their enterprising projectors. Altogether the outlook is most encouraging, and stands out in striking contrast to the financial depression now prevailing throughout the West.

H. HUNTER SPINDLE.

THE STORY OF SAVERNAKE, VA.

An Anglo-Virginian Enterprise.

SAVERNAKE, VA., October 6, 1890.

Editor Manufacturers' Record:

The English business world, if not quite as prompt as that of the United States to grasp the opportunity for quick profits, reads with equal care and perhaps closer scrutiny the wonderful accounts of Southern industrial development as noted in the MANUFACTURERS' RECORD. This record of unparalleled success, both for the section and its exponent, has demonstrated to them two facts. The first is that land "in freehold"—that investment most dear to the British heart—could be bought at reasonable rates, with perfect title, near business centers in the South. The second, that such purchases could be so developed both by reason of their intrinsic mineral value and the prosperity of the region as to earn large profits.

In 1888 an English gentleman, now a member of the directorate of the Loch-Laird Estate & Mineral Co., Limited, the present owners of the town-site of Saverlake, visited Virginia, attracted by the reports as to the tin ores of Rockbridge county. While investigating mineral values in Rockbridge, his attention was attracted to the beautiful natural site for a city at Hart's Bottom, on the North river of the James. The writer endeavored, and successfully, to point out the certainty that such deposits of the brown iron ores, of manganese oxide, of limestone for flux, of fire-clays for refractories, of building clays for bricks and pipe, must, in the very near future, bring works where all the raw material had been assembled by nature. Man had contributed, as usual, his infinitesimal quota by building two railroads, by adding some very poor country roads, and by satisfying himself with occasional vague reference to "our wonderful mineral wealth"—a wealth which would not, however, honor the drafts proposed to be made upon it, except signed by the pick and shovel of the miner, and which was valueless as a collateral when compared with the more practical entities of the region in wheat, corn or tobacco.

Securing refusal of this property, the Englishman referred to returned to London and submitted the plan of the purchase and development of the minerals, the establishment of works and the creation of an industrial city to his friends. The result was not unexpected. Incredible as to values, suspicion as to title, cold water as to American investments, and above all, to Virginian investments, met his efforts, and the scheme was shelved. Two years later the scene changed. The MANUFACTURERS' RECORD had shown the possibilities of Alabama; Birmingham had excited the attention of its ancestor in the Black Country of England; the success of Roanoke had accentuated the fact of certain Virginia development; Tennessee and Kentucky came to the front; Middleborough was to be, and by the persistent efforts of a few undaunted believers in the future of the South, the attention of English capital was fastened upon it. With the spring of 1890 Buena Vista was born. A more peculiar and unlikely-to-be-successful venture was never made. The population was a close-fisted, conservative, agricultural, Scotch-Irish element. The joint stock principle was decry by the press, warned against by the local bar, probably then ignorant of the prospective fee mine it promised, and scorned by everyone of credit and prudence as a thing to be let alone. Buena Vista changed the whole current of feeling. Rockbridge opened its stocking. The subscription to the stock was phenomenal. It was purely local. In a week, or possibly less, \$300,000 was subscribed at home and by a people who never were

guilty of such imprudence before. Doubts, hesitation, sneers, innuendoes followed the accouchement. To a few persistent, level-headed, clear-sighted men is due the really magnificent success of Buena Vista, and they are worthy of what they have made for themselves—"a monument more lasting than brass."

With little aid from the press, with great obstacles, but with the solid foundation of intrinsic values, they labored, at first in the dark. Dr. Ruffner came to their aid and let the light of science into the ravines and gulches of the Blue Ridge. In a report which has not been equalled save by that of the late Prof. W. B. Rogers, he showed the certain and positive mineral values existing. Capital turned one eye, soon both, toward Buena Vista. The MANUFACTURERS' RECORD added its testimony with no uncertain note; the real estate agent, that enterprising, pushing, much-abused, but never-to-be-sufficiently-honored adjunct of the boom, appeared on the scene. A few months, and lo! a city where Hart's Bottom herds and a few bark teams to "Appold's tannery" had formed the only life.

These facts and their moral, with possibly "I told you so," were sent by the writer to London, to the same English gentleman who had unsuccessfully offered Hart's Bottom. This time the argument of facts prevailed. The farm of one of the oldest residents of the valley, immediately adjoining Buena Vista on the south, was secured. The value of this property in minerals, in iron ore and clays and manganese, and in all the to be factors of a manufacturing city, equalled and were continuities of Buena Vista. In desirability of sites, in picturesque beauty, in a very especial *multum in parvo*, the Loch Laird estate and Saverlake claims pre-eminence; but with Mrs. Malaprop "comparisons are odorous," and the success of Buena Vista compels the success of this younger enterprise.

A London company, formed purely for mineral developments, and made up of a few private gentlemen, who only proceeded after full report of an eminent Scotch engineer upon the property, fathered the enterprise. The prime objective point was the development of manganese. This was so done as to insure knowledge of large and lasting deposits, and without a view to speedy profit from shipments. A very considerable outlay and months of time were consumed in demonstrating this fact. It was, however, demonstrated that here was manganese in quality unsurpassed even by Crimora, and the world furnishes no better; that here was a certainty of a deposit of this mineral to justify large development, to supply ferro-manganese works, and insure large export trade.

The encroachments of Buena Vista, of Enderly, of town booms North, South and West, warned the owners of Loch Laird that the time had come for Saverlake, so named after the seat of its chairman Lord Henry, Brudenell Bruce, M. P., in Wiltshire, Eng. A town survey was made and the lovely country side ruthlessly indented by the surveyor's pegs; a map prepared; no effort at publicity; a thousand and odd "lots" materialized, and with it all, buyers! The "syndicate," that latest fad term for a pool of capital, desired 700 lots. The trade made, the syndicate in turn had more buyers than lots. Streets appeared in the dream; industries applied without seeking; works of all kinds sent propositions. Within a fortnight enough and more had offered to insure a city. An electric-light man offered a plant on fair terms. The engineer of a water company proposed a supply of water. The local journal, which has contributed as much as any one thing to the success of Buena Vista, lent its valuable aid, and prosperity was insured. The much delayed tariff was passed, and Virginia tin plate making became a cer-

tainty! For years the dream of the writer and of a few practical tin plate manufacturers formerly of Swansea, had been a Virginia tin plate, free from lead, made of Virginia iron ore, converted into Virginia steel and tinned with Virginia tin! The new tariff makes this a certainty. A company of English, Chicago, Philadelphia and Virginia capitalists is formed. The plant will have all the latest improvements of the best Welsh works. The steel will be by Siemens-Martin open hearth "pig and ore" process, the tinning by the new "single pot" process. Valuable patents in pickling machines, in regenerating acid and saving scale, latter electrically, are controlled. The product of the works will be 3,500 boxes tin plate weekly, and the works so built as to admit of extension to a capacity of 8,000 boxes tin plate for the second year. The ink is wet as I write, when a letter from Lynchburg comes saying, "if not entirely secured, I can offer you the whole capital for your tin plate works from Lynchburg!"

Such is Southern progress, and such the story of Saverlake.

A Railroad Officer's Strong Statements.

Col. Pope, of the Norfolk & Western, Tells of the South's Wonderful Resources.

ROANOKE, VA., October 3, 1890.

In 1881 the writer first learned that Col. A. Pope, then general passenger agent for the Southern Associated Railways, was well informed as to the natural resources of the South. Several elaborate letters of his on that subject, which I had the pleasure of reading at the time, made me anxious to meet and converse with their author, but the opportunity never presented itself until yesterday, when I found Col. Pope here as general freight agent of the Norfolk & Western's extensive and ever-extending system. It is but justice to this wonderfully well-informed gentlemen to say that the letters referred to were written in response to questions asked by Hon. H. I. Kimball, who wished to know whether the co-operation of the principal railroads of the South could be obtained in preparing for the Atlanta Cotton Exposition of that year displays of all the natural resources of the districts respectively tributary to their lines. Col. Pope adopted the suggestion with hearty alacrity, and wrote so fully and with such evidently accurate knowledge of the South's natural resources that the few who saw his letters were amazed at his statements. Those letters were largely instrumental in deciding Mr. Kimball to call the conference of railroad representatives which met at Atlanta July 29th, 1881, at which time an agreement was entered into that resulted in those magnificent displays which none that saw them will ever forget. I was curious then, and have been ever since, to know how a Southern railroad passenger agent could have become so well informed about matters of which those best acquainted with the South knew little or nothing, and last evening I asked Col. Pope to explain the mystery, which he did most fully. The substance of his story is that he was born at Macon, Ga. When a boy about twelve years of age he gained his father's consent to leave school and enter a telegraph office as a messenger boy and a pupil to the operator. Before long he became an expert in the profession and saved enough of his wages to purchase a scholarship in a Georgia college, where he took a full course of study, and after his graduation he, in 1855, went to Montgomery Ala., where he acted in the triple capacities of telegrapher and freight and ticket agent for the West Point & Montgomery Railroad. During the war he was engaged in the railroad service, and when that duty ended he accepted an appointment as general freight agent on the Atlantic

& Western Railroad. Afterwards he was called to the service of the Wilmington & Weldon Railroad by the late Hon. Wm. R. Bridgers, president of that company, a wonderful man of great energy and of a very retentive memory, who was remarkably well informed about the resources of the South, and was seriously engaged in attempting to awaken such an interest in them as would lead capitalists from other sections to attempt their development. His intimate relations with that gentleman soon led Col. Pope to take an equally deep interest in the same subject, and to pursue every line of investigation that time and opportunity permitted, until, when Mr. Kimball's first letter reached him, he was prepared to understand the good effects that the suggested exhibits would have upon the South's upbuilding, and to indorse the proposed plan and urge its adoption by all Southern railroad companies. At the time of this correspondence he held the position of general passenger agent for the union formed for traffic purposes by the principal trunk lines doing business in the South, known as the Associated Railways of the Carolinas, and in that position was able to exert a much wider influence and to cover a much greater field of operations than would have been possible had he been connected with but a single road. It was largely due to his exercise of this influence that those splendid exhibits were made which, it is now universally conceded, have been of immense and lasting advantage to the South.

It was about that time that Col. Pope prepared and carried into effect a well-considered plan for attracting capital and immigration to the South. So long as he retained his official connection with the associated railways he maintained a careful supervision of this work, and succeeded in securing as immigrants many excellent families from the North, as well as large amounts of permanent investments in new enterprises in the two Carolinas. Later he was called to the office he now fills, and in it he has found full scope for the employment of all his powers.

An article descriptive of the Norfolk & Western system, which appeared in the MANUFACTURERS' RECORD some weeks since, suggested to all capitalists who read it many questions about the various sections traversed by the main line and its extensions and feeders, and also about the towns and cities that this road has brought into existence by opening up the coal fields and ore beds of this extensive mineral belt. So many requests have been received at the company's headquarters for information on these points that it has been compelled to prepare a series of maps and quite a quantity of literature to satisfy the demand. Among the maps are two that have been prepared with what, it is claimed, is more elaboration of details and a closer attempt at perfection than any ever issued by a railroad corporation. One which may properly be styled a geological map shows the whole of the mineral territory tributary to this system in the five States of Virginia, North Carolina, Eastern Tennessee, Kentucky and West Virginia. The other is an interstate commercial chart that sets forth clearly the relations of this railroad to all others traversing the same country, and at the same time shows what numerous distant commercial cities will be reached when the various extensions of the system, now under construction, shall be completed. But the one thing that impresses the careful student of these maps is that all the system that now is, and all that it is to be when every projected road has been finished, will contribute to the steady growth of Roanoke. Upon suggesting this to Col. Pope, he replied: "You are unquestionably right. This city has nearly 20,000 residents, as against possibly 600 in 1884. It is an aggregation of people attracted here by its central location, its fine

climate, its established industries, its flattering prospects, and the abundance of employment for common and skilled labor. No man who wants work need be idle a single day here. It is destined to be a place where in time everything will be made from a needle to a piano. It will be one of the important jobbing centers of the South, and for that matter there are fine opportunities for wholesale merchants to begin now and grow up with the country. This map shows you the road as it now is, with connections; also all connections under construction, and all proposed roads that will probably materialize. We shall have, when all the roads certain to be finished are in operation, first, the seaports of Wilmington and Charleston, in addition to Norfolk as outlets for our coal, iron and other products; next, our extension to the Ohio river and our control of the Scioto Valley Road will put us into direct connection with the Ohio valley and the great lake cities; third, our New River Division will meet at Big Stone Gap the Eastern Extension of the Louisville & Nashville system, which will carry our traffic to all points south and west of the Appalachian range; in other words, with what we now have, and with what we are certain to have in the shape of future connections, I expect Roanoke to be one of the foremost commercial and manufacturing cities in the South. I came here when this was a country village called Big Lick, and have seen the beginning, rise and progress of this place from a petty hamlet to this beautiful city. I have watched the traffic of our system increase to its present enormous proportions, and yet I know that the resources of the country are so great and their development so rapid that the volume of freights we now carry do, and will continue to, increase with every succeeding month. It is perfectly safe to advise people to come to Roanoke to settle, or to engage in business, or in the purchase of business or residence lots. Any one buying property in the center of this town at present prices will be certain to see it advance in value, and that very quickly. Next June our junction with the Yadkin Valley Railroad will be effected, and then a vast volume of trade will flow back and forth between Roanoke, Wilmington and the many busy intermediate towns of North Carolina. The more you study these maps the better you will be satisfied that Roanoke occupies a vantage ground possessed by few and surpassed by none of our country's interior cities, while the immensity and variety of the minerals and lumber in the country on every side will supply manufacturers' needs for countless generations."

Referring to the results likely to arise from a greater unification of interests, as between the Shenandoah Valley Railroad and the Norfolk & Western, by reason of a unity of ownership having been assured by the recent sale of said Shenandoah Valley property, it is fair to assume, from a commercial standpoint, that a direct line of communication will be established to Washington by the building of a line from some suitable point on the Shenandoah Valley Road. This would naturally open an additional direct highway, as between Washington city and all points in Virginia and south thereof, as reached over the Norfolk & Western Road and its various connections, and would have the effect of re-establishing, upon preferential schedules, quick and satisfactory through car service that has not been enjoyed in a proper degree under the systems of connection that the Norfolk & Western has had with Washington via the Virginia Midland Railway, because said Virginia Midland Railway interests were naturally in that direction and over that line, as a part of the Richmond Terminal system, that gave the greatest revenue, by reason of the longest haul, to its own system.

The advantages of Washington as a point of convergence for north-bound traffic from the South and of divergence for south-bound traffic from the North does not need any argument, because it has always been and will ever be, in my judgment, the recognized key to the Southern and Southwestern passenger service. This service would naturally be performed in connection with the Pennsylvania Railroad as the leading factor in passenger traffic, but would naturally be open likewise to other connections that might be enjoyed. This would, at the same time, enable the Pennsylvania system to open up via Washington and its line converging at Washington new routes for the handling of freight traffic to the South and Southwest, in addition to that at present enjoyed by the way of Harrisburg and Hagerstown. The unification of the system as referred to would, in my judgment, enable freight schedules to be perfected in a manner that would quicken fast freight service, as between the Eastern and Middle States and the South and Southwest. The development of this freight traffic over the all-rail routes referred to is principally in the direction of various manufactures of wood and iron, machinery, furnace material, steel rails, all kinds of car and other transportation equipment, cotton mill machinery, the movement of the various farm products, such as potatoes, fruits, etc., from the various interior Northern points to the South. In the reverse direction it would give us the opportunity of enlarging the movement of Southern lumber, yellow pine, etc., to the various industrial establishments of the Northern and Middle States that need yellow pine in large quantities. It enables the movement of various Southern factory products to the North and various products of cotton seed, such as cotton seed oil, oil cake, etc. Likewise it enables the movement of larger quantities of cotton to various New England mills, and should, if circumstances are favorable, enable the all-rail route referred to to be one of the leading all-rail routes as between the Northern and Middle States and the South and Southwest. The various connections of the Norfolk & Western Railroad, as well as those that it is contemplated it will possess, will simply add to the area of territory that this all-rail route can satisfactorily reach. The opening up of the Cape Fear & Yadkin Valley to a connection with the Norfolk & Western at a not distant date will, therefore, afford an opportunity for the interchange of traffic with all portions of North Carolina by said route. The completion of the Clinch Valley line to a connection with the Louisville & Nashville will likewise enable this line to be a factor in Western and Southwestern traffic, and it occurs to me that this link in the system enables the Norfolk & Western line to present itself to the public as a factor in the transportation service of the country with a degree of completeness that will be unexcelled by any other carrier. For instance, the connections which it enjoys via Norfolk, either for coastwise or foreign traffic in that direction, which are being constantly improved and will soon be perfect, are supplemented by this all-rail route service over the Shenandoah Valley connection to all of the various manufacturing and industrial communities and sections of the Northern, Eastern and Middle States, and in a reverse direction by its various connections South and Southwest, is able to bid on equal terms for all of this traffic that may be handled to or from the Southern, Southwestern and Western States. I know of no conditions of adverse mileage that would cause this line as so perfected to be in any respect at a disadvantage with any of the other trunk lines of the country.

The foregoing is but a synopsis of Col. Pope's carefully made statements in the course of a long conversation.

DALLAS, TEXAS.

One of the Leading Cities of the Southwest—Growth in Manufacturing.

DALLAS, TEXAS, October 3, 1890.

Editor *Manufacturers' Record*:

The machinery is being placed for the paper mill which is to begin operations about the 1st of December. The buildings for this enterprise are nearing a state of completion, and Dallas will soon be shipping the product turned out from the first and only paper mill in the new Southwest. Only the coarser grades will be manufactured at the start, but it is the intention of the projectors eventually to turn out the finer grades. The raw product—straw—for the manufacture of this commodity has been wasted by the tons for the want of a market, and the mill will be the means of distributing thousands of dollars annually among the farmers, who will now find a ready market for their straw.

Mr. O. P. Bowser, president of the Dallas Board of Trade, and a leading spirit in the Dallas Manufacturers' Aid & Improvement Co., has just returned from a two months' trip to New England, where he went in the interest of Dallas enterprises. He says that while other cities with a reputation for rapid growth were now resting upon their oars, Dallas continues to forge to the front, and never in her history did she possess such peculiar advantages for keeping up that growth. Among these he mentions the fact that Dallas is the first city in all the Southwest in the eyes of the moneyed men and manufacturers of the country; and further fact that the census shows that the leading commercial centers of the country have prospered and built up at the expense of the smaller cities and towns. The law of concentration has been established, and it will not be violated in this generation—concentration of wealth, of labor, of commerce and industry. Dallas, holding the first position in all the requisites of growth, and being the acknowledged leading city of the Southwest, she can hold the position with assurance of more rapid strides than she has made in the past.

For the first time in the history of the city, Mr. Bowser says, propositions are coming from manufacturers to establish here without bonuses. They want to get in on the ground floor. We want people who will build up industrial enterprises, and the New England people will do it. They don't want real estate. In the new cotton mills 13 of the stockholders are the most successful, wealthy and influential manufacturers in the East.

The New England manufacturer finds here advantages in cheaper coal, a better class of labor and a lessening in freight rates from the fact that the raw material is found here in abundance, doing away with the necessity for a long haul to the factory and another long haul over the same route to the consumer. While a good grade of coal for manufacturing purposes is delivered here at \$2.50 per ton, the New England manufacturer pays \$4. Cotton manufacturers here state that experience teaches that labor trained at home is more desirable and gives greater satisfaction than imported labor. But the successful operation of any new enterprise at the start depends upon a certain per cent. of imported labor. The new cotton mills located on the reserve of the Dallas Manufacturers' Aid & Improvement Co. will draw about 100 experienced operatives from the East.

The county tax assessor reports that the taxable values of the county this year reach \$38,000,000, an increase of over \$9,000,000 over the assessment last year. This is the most favorable showing made by any county in the State.

The latest official returns from the census office show that Dallas, including the suburbs of Oak Cliff and West Dallas, has 42,546 population. This does not include the suburbs of Oak Lawn, Fair Land and College Hill, which will run the aggregate up several thousand more. This is an increase of 32,188 souls in ten years.

Tredegar offers the most inviting field in the United States for the establishment of manufacturing enterprises.

It has Unequalled Advantages for

Iron and Steel Works, such as Furnaces, Rolling Mills, Machine Shops, Foundries and everything using iron.

Car-Wheel Works, Car Shops.

Cotton Mills, Knitting Factories, and other Textile Industries.

Cotton-Seed Oil Mills and Fertilizer Factories.

Woodworking Industries of every sort, Saw and Planing Mills, Sash, Door and Blind Factories, Furniture Factories, Handle and Spoke Factories, Agricultural Implement Works, Carriage and Wagon Factories, &c.

Brick Works for making Building Brick, Vitrified Brick, Fire Brick, &c.

Sewer Pipe Works.

And many other industries.

The most liberal inducements will be offered to those who desire to locate such industries.

*The Best Location in the Country
for New Enterprises.*

TREDEGAR, ALA.

Here Are Found :

The finest Hematite Iron Ores in the South.

Extensive Manganese Deposits that experts from Pennsylvania and elsewhere believe to be the greatest in the United States.

Vast Forests of Fine Timber, Pine and many varieties of Hardwoods.

Never-failing Mountain Springs with a daily flow of many million gallons of the purest Freestone water, besides Sulphur, Chalybeate and other Mineral Springs.

A climate that has no superior for all the year; malaria is unknown, and the nights are cool even in midsummer.

A Fertile Agricultural Country, where cotton, grains, grasses, fruits and vegetables yield abundant crops, and where fine Jerseys wade knee-deep in clover.

A population of 3,000, churches of all denominations, excellent schools, charming society.

A National Bank, Water Works, Fine Hotel, &c.

Steel Works, to include Furnaces, Rolling Mill, Rail Mill, Cotton Tie Mill, &c., and to employ 3,100 hands, under construction.

A Cotton-Seed Oil Mill and Fertilizer Factory under construction.

For particulars address GOLDSMITH B. WEST, General Manager JACKSONVILLE MINING & MANUFACTURING COMPANY, Tredegar (Present Postoffice, Jacksonville), Alabama.

*An Unequalled Field for
Profitable Investment.*

LAREDO, TEXAS.

The Gateway to and from the Republic of Mexico

Is nature's grand outlet for the manufactured products of the United States and nature's grand inlet for the mineral and raw products of Mexico. For the cheap delivery of the raw material necessary for the successful operation of iron and all textile industries, Laredo holds a position unsurpassed, every material being found in the immediate neighborhood. The very foundations of the city are upon inexhaustible coal beds, now being rapidly developed. A glance at the map will show that there are no large cities within hundreds of miles of Laredo, and her favorable geographical location, being from 600 to 800 miles nearer the trade centers of both republics than any other frontier port, stamps her as the commercial entrepot between the United States and Mexico.

Laredo is becoming a most important manufacturing point,

having the following industries already located and in operation:

Woolen Mill.
Wool Scouring Mill.
Tannery.
Boot and Shoe Factory.
Ore Concentrating Works.
Ore Sampling Works.
Cotton Gin and Milling Works.
Mineral Water Bottling Works.
Four Ice Factories.
General Car and Machine Shops of the Mexican National Railroad, the largest west of the Mississippi.
Three Large Brick-yards and several smaller establishments.
A large Cotton Factory is now being erected by a New England syndicate.

Laredo Offers to the Capitalist, Merchant, Manufacturer and Mechanic
Opportunities for Investment, Business or Manufacturing such
as no other City in the Southwest can offer.

The city is well supplied with railroad facilities and hotel accommodations, has Holly system of water works two electric-light companies and one of the best equipped electric motor street railways in the United States.

Population.	Imports and Exports.
1886..... 3,000	
1888..... 6,000	1888.....\$ 3,000,000
1889.....12,000	1889..... 10,543,000

For Maps Pamphlets, Bird's Eye Views and Reliable Information of Laredo, address

THE LAREDO IMPROVEMENT CO.

KIMBALL.

MARION COUNTY,

TENNESSEE.

KIMBALL TOWN COMPANY.

H. I. KIMBALL,

Vice-Prest. & Managing Director.

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 A. J. MORISON, Capitalist, London, England.
 J. H. BRYANT, President Seattle Coal & Iron Co., New York.
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HON. H. L. COCHRAN, Judge Probate Court, Fort Payne, Ala.
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 Secretary W. E. DONALDSON.
 Assistant Secretary, W. BROOKS COVELL.

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W. E. DONALDSON, Kimball.
 SHEPHERD, WATKINS & BATES, Chattanooga.

ENGINEERS.

Landscape Engineer, NATHAN G. BARRET.
 Resident Engineer, W. J. KELLY.
 Sewerage and Electrical Engineers, NIER, HARTFORD & MITCHELL.

Hon. SAM'L H. DUCK, Gen. Superintendent.

OFFICES.

Richardson Building, Chattanooga.
 Union Trust Building, 80 Broadway, New York.
 Company's Building, Kimball, Tenn.

Kimball Offers

Solid, practical inducements to manufacturers. First-class enterprises under good management will be guaranteed, one-half the cash required. Local taxes will be remitted for a term of years. Lowest freights and cheapest raw materials will be secured.

Auxiliary Companies

will be organized by the parent corporation for developing the wealth of the Sequachee Valley and for supplying the city with heat, light, water, power and transportation.

A Mammoth Industrial Building

will be erected by the Kimball Town Company, which will have power, light and heat, that will be supplied to manufacturers on the most liberal terms.

Ample provision made for religious and educational institutions.

No Further Auction Sales

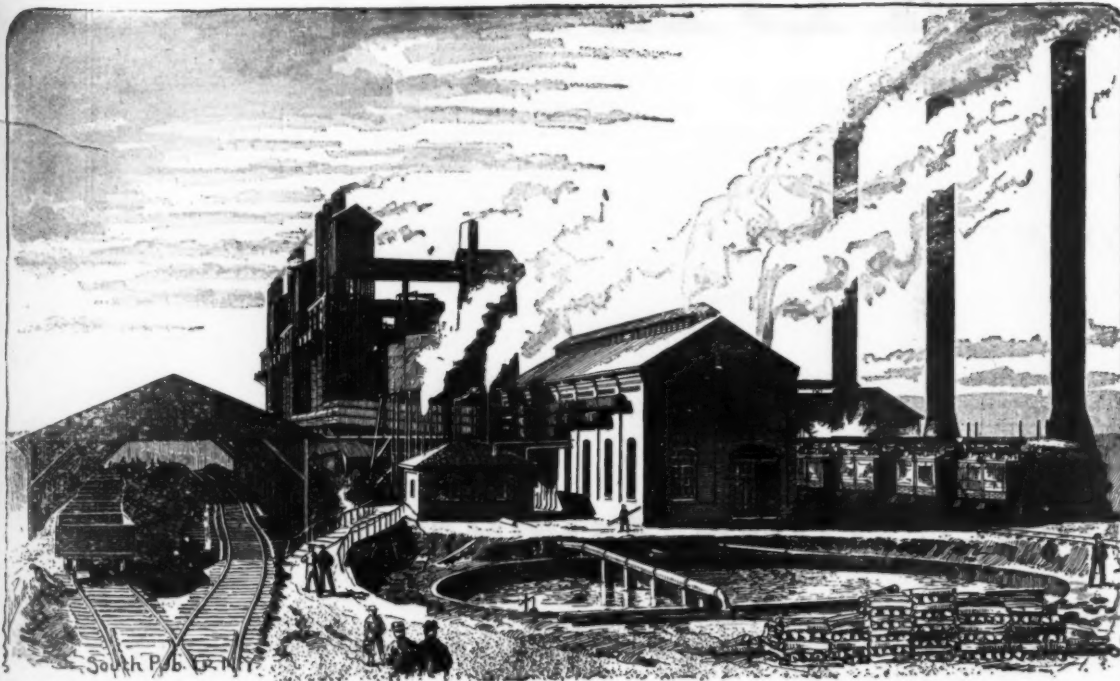
this year and no private sales of the corporation's lots except to those who will contract to build immediately on plans approved by the management.

ALL CORRESPONDENCE SHOULD BE ADDRESSED TO

H. I. KIMBALL, Managing Director,
CHATTANOOGA, TENN.

SHEFFIELD, ALA.

THE SUPERB.



At the Headwaters of Deep Navigation on the Tennessee River, the Hudson of the South.

The Largest Producer of HIGH-GRADE Pig Iron of any City in the Entire Industrial South.

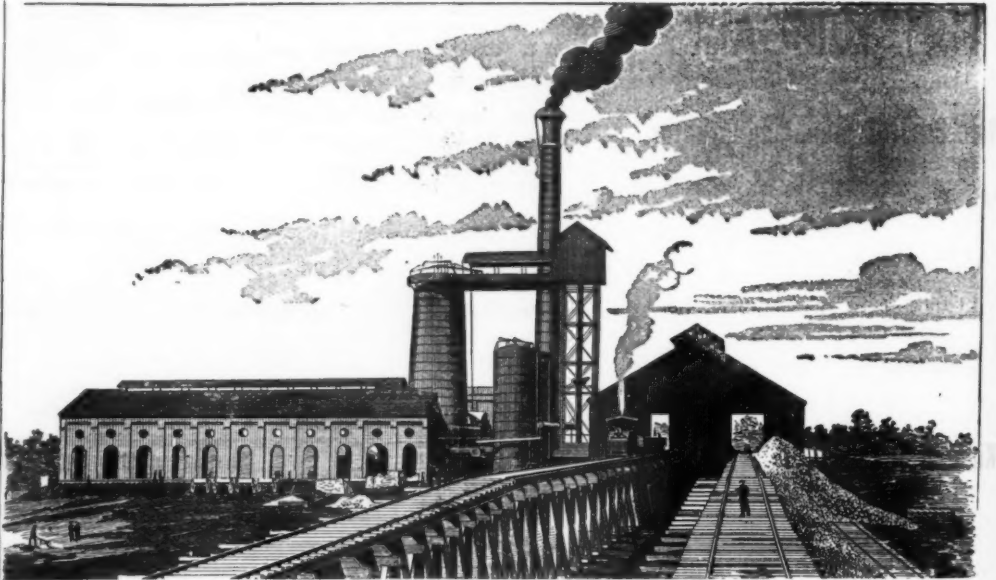
The only point in the South that has or can ship pig iron to the cities on the Mississippi, Missouri and Ohio rivers by boat or barge without rehandling. This last shipment of 5,000 tons of Pig Iron to Pittsburgh, Pa., by barge was made at a saving of \$2.65 per ton over what any iron-producing city of the South has done or can do to-day.

Five Large Blast Furnaces

Capacity 750 tons pig iron per day.

The following are among the corporate and private enterprises that belong to Sheffield:

The Sheffield Land, Iron & Coal Co., capital \$1,000,000.
 The Sheffield & Birmingham Coal, Iron & Railroad Co., capital \$1,000,000; the owners of three 150-ton blast furnaces.
 The Birm., Sheffield & Tenn. River Railway Co., capital \$5,000,000.
 The Hattie Ensley Furnace, capital \$200,000.
 The Lady Ensley Furnace Co., capital \$200,000.
 The Electric Light & Gas Fuel Works, \$50,000.
 The Sheffield Ice Co., capital \$25,000.
 The Sheffield Manufacturing & Constructing Co., \$30,000.
 The Sheffield Contracting Co., \$50,000.
 The Eureka Brick & Lumber Co., \$30,000.
 The Howard Brick Co.
 The Sheffield Bakery & Bottling Works.
 The Sheffield Mineral Paint Co., capital \$50,000.
 The Sheffield Agricultural Works, capital \$40,000.
 The Sheffield Cotton Compress Co., \$50,000.
 Millan Brothers, Steam Laundry.
 Enterprise Publishing Co.
 Water Works, already expended, \$30,000.
 Sheffield Street Railway Co., capital \$100,000.
 Cleveland Hotel Co., capital \$50,000.
 Sheffield Hotel Co., capital \$120,000.
 Bank of Commerce, capital \$150,000.
 East Sheffield Land Co., capital \$500,000.
 Hull & Keller's Fern Quarries.
 Mobile Real Estate Co., capital \$50,000.
 Sheffield Real Estate Co., capital \$50,000.
 Sheffield & Mobile Improvement Co., capital \$100,000.
 Sheffield Stove Works.
 Henderson Milling Co., capital \$100,000.
 Globe Iron & Brass Works, capital \$10,000.
 Standard Machine Shop & Foundry, capital \$50,000.
 Owen Pink Mixture Co., capital \$100,000.
 Bell Telephone & Telegraph Co.
 Foulds' Shoe Factory, capital \$50,000.
 Enterprise Wood Working Co., capital \$30,000.
 Buchanan Straw Goods Factory, \$25,000.
 The Sheffield Harness & Saddlery Co., capital \$20,000.
 Principal Shops of the Sheffield & Birmingham Railroad.
 Principal Shops Memphis & Charleston Railroad, now being built.



Aside from the foregoing the following are in course of construction and may be considered positive: Principal Shops of the Memphis & Charleston Railroad; Principal shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad. Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill; Large Machine Shop; A Cotton Mill.

ALABAMA'S IRON CITY.

The Superb Location at the head of navigation on the Tennessee River, commanding the outlet to immense fields of IRON ORE and COAL and magnificent tracts of the finest Timber. Has already attracted to the spot where three years ago in a cotton field her projectors set the stakes of a new city, capital and people, unequalled in amount and number, circumstances considered, by any of the so-called new cities of the South.

With eight Church Organizations, two Free Public Schools, Postoffice, Telegraph and Express offices and abundant facilities of transportation by river and rail. It has every advantage as a residence city that can be desired.

Good Water; Drainage Excellent; Health and Climate Unsurpassed. Free Public Schools and Churches. Splendid opening for men of push and energy. No better point for profitable investment. No "Old Foggy" element here.

Sites for Manufacturing Enterprises

And for Free Public Schools and Churches

Donated by the Sheffield Land, Iron & Coal Company.

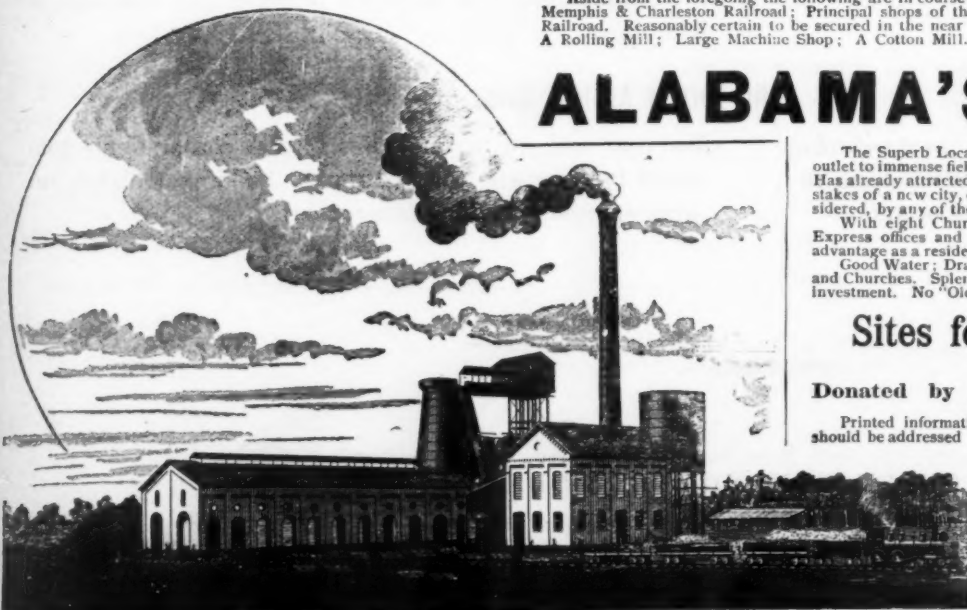
Printed information furnished on request. Correspondence solicited. Communications should be addressed

W. L. CHAMBERS,

Vice-President and Manager.

Sheffield Land, Iron & Coal Company,

SHEFFIELD, ALABAMA



The Staunton Development Co.

OF STAUNTON, VIRGINIA.

Authorized Capital \$2,000,000.

Shares \$100 par value each.

OFFICERS

M. ERSKINE MILLER, President, Staunton, Va.

S. M. YOST, Vice-President, Staunton, Va.

W. P. TAMS, Treasurer, Staunton, Va.

W. J. PERRY, Secretary, Staunton, Va.

DIRECTORS.

ISAAC WITZ, Staunton, Va.

S. M. YOST, Staunton, Va.

O. K. LAPHAM, Chicago, Ill.

GEORGE H. HULL, President American

B. F. EAKLE, Staunton, Va.

JED HOTCHKISS, Staunton, Va.

H. H. FAY, Capitalist, 28 State Street,

Pig Iron Storage Warrant Company, 44

JOHN McQUAIDE, Staunton, Va.

J. H. WAYT, Staunton, Va.

Boston, Mass.

Wall Street, New York.

ANDREW BOWLING, Staunton, Va.

M. ERSKINE MILLER, Staunton, Va.

W. L. FLEMING, Richmond, Va.

STAUNTON, VIRGINIA.

The Queen City of the Valley of Virginia.
Present Population 12,000.

Situated in Augusta county at the crossing of the Baltimore & Ohio and Chesapeake & Ohio railroads and accessible to the great coal and coke fields, namely: Connellsville, by the Baltimore & Ohio; Pocahontas or Flat Top by the Norfolk & Western and Chesapeake & Ohio, and New River Coke Fields by the Chesapeake & Ohio.

PROPERTY.

The lands acquired, aggregating 2,242 acres, more or less, are favorably situated within the city limits and adjoining the corporation lines, and it might be fairly said that about 240 acres are situated within the city of Staunton. The great bulk of the property lies between the Valley Railroad or Baltimore & Ohio Railroad and the Chesapeake & Ohio Railway, and is most admirably situated for railroad switches and side tracks to reach manufacturing enterprises. Several streams of good water run through the lands, affording abundant water supply for factories and fine drainage.

CAPITAL STOCK.

The authorized capital is two million dollars. One million, two hundred thousand dollars of stock will now be issued,

of which \$204,800 has been disposed of, leaving \$800,000 of stock in the treasury, to be hereafter issued, if it should be deemed wise to do so.

Subscribers will bear in mind that with every two shares of stock they will be entitled to either a business or residence lot, to be determined by a drawing at a date to be hereafter designated.

BOOKS OF SUBSCRIPTION NOW OPEN.

Staunton is within six hours' ride from Washington, seven of Baltimore, nine of Philadelphia and eleven of New York.

It has an excellent system of water works, paid fire department, electric light and gas companies, ice factory, street car line under construction, four newspapers, handsome opera house, commercial college and other important industries that contribute to the welfare of the city.

FOR SUCH INDUSTRIES AS

COTTON MILLS,
WOOLEN MILLS,
TANNERIES,
BOOT AND SHOE FACTORIES,
HARNESS AND SADDLE FACTORIES,
FURNITURE FACTORIES,
CARRIAGE AND WAGON FACTORIES,
FLOUR MILLS,
GRIST MILLS,
CRACKER FACTORIES,
CANNING FACTORIES,
COTTON-SEED OIL MILLS,

DALLAS, TEX.

Is equal to any locality
in America in its
combined advantages of

**CHEAP AND
ABUNDANT
RAW MATERIAL
READY,
PROFITABLE
AND EXPANDING
MARKET.**

**DISTRIBUTING FACILITIES,
ELIGIBLE SITES,
GOOD CLIMATE.**

Any worthy industries
will be aided liberally by the

DALLAS MANUFACTURERS' AID & IMPROVEMENT CO.

711 Main Street, Dallas, Texas.

BEDFORD CITY LAND & IMPROVEMENT CO.

BEDFORD CITY, ^{LAT} LIBERTY, VA.

By special act of the Legislature of Virginia the Bedford City Land & Improvement Company was chartered with the most liberal grants of power. The company has been fully organized.

AUTHORIZED CAPITAL - - - - \$1,000,000.

JAS. M. BERRY, (of Berry Bros., Tobacconists,) **President.**
R. B. CLAYTOR, (of R. B. Claytor & Co., Merchants) **Vice-President.**
J. LAWRENCE CAMPBELL, (of Burks & Campbell, Attorneys-at-Law,) **Secretary.**
S. M. BOLLING, (of Bolling, Wright & Co., Tobacconists,) **Treasurer.**

BOARD OF DIRECTORS:

MARTIN P. BURKS,	R. B. CLAYTOR,	J. M. BERRY,
C. W. WHARTON,	J. LAWRENCE CAMPBELL,	T. D. BERRY,
S. M. BOLLING,	SAMUEL GRIFFIN,	W. W. BERRY,
DR. W. W. SMITH, President of Randolph-Macon College,		
REV. A. E. DICKINSON, D. D., Editor of the Religious Herald, Richmond, Va.		

The Company is solvent and its business is conducted on the soundest business principles. It is not engaged in wild booms.

Only \$300,000 worth of stock has been offered to the public.

The Company owns nearly 800 acres, containing the best residence, business and manufacturing sites. The stock which is offered is in ten-dollar shares, payable \$3 per share cash when subscribed, \$1 each thirty days thereafter, until \$5 is paid on the share. For this the Company issues paid up non-assessable certificates of stock. The money thus raised is to be applied to the improvement of the property.

Bedford City is not an old field, but a thrifty, growing community, in the most healthful and beautiful mountain region in Virginia.

Mean yearly temperature 53.7; Winter, 44; Summer, 78.

A few miles from the peaks of Otter, it would be difficult to exaggerate the exquisite beauty of the scenery and the tonic quality of the atmosphere. Within a days ride of Boston, New York, Philadelphia, and a few hours from Baltimore, it presents unusual advantages for health seekers.

The present population is nearly 4,000. There are 30 manufacturing enterprises, large and small, in operation, and 10 new secured with capital provided, which go into work as soon as buildings can be put up and the plants erected.

On the Company's lands are the elegant Randolph-Macon Academy, the largest school for boys in the South, and the Jeter Memorial Institute for young ladies, which will be commenced within six months. The Norfolk & Western R. R. Co. will build a fine passenger depot near a first-class hotel, to cost \$75,000. Poindexter, the architect of the Academy, is now preparing plans.

The Bedford City Company offers the most beautiful residence sites in the western part of the town, in which direction it is rapidly building.

This is the safest and best investment offered anywhere in Virginia. It is a golden opportunity to get property in a splendid section, as rich in minerals as it is healthful and magnificent in the grandeur of its mountains.

A new railroad from Glasgow to Atlanta will be built. Its construction will begin this year. For further particulars address

J. M. BERRY, President of Bedford City Land & Improvement Co., Bedford City, Va.

DENISON, TEXAS.

The "QUEEN" City of the Southwest,

— AND —

* GATEWAY *

— TO THE —

GREAT STATE OF TEXAS.

The City of Denison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Denison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, and a six-mile motor railway; has two electric-light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1889. 200,000 baskets of strawber-

ries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has one of the largest canning factories in the country.

A cotton mill company with a capital of \$500,000 is building a 25,000-spindle cotton mill.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory has been increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT COMPANY,

DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President.

B. J. DERBY, General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS:

W. P. RICE,
J. M. FORD,
SAM STAR,

Kansas City, Mo.
Kansas City, Mo.
Denison, Tex.

B. J. DERBY, Burlington, Vermont.
ARTHUR L. BERRY, Denison, Tex.
M. V. B. CHASE, Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.
B. C. MURRAY, Denison, Texas.
JOS. B. LINCOLN, Boston, Mass.

* LURAY, * Virginia. *

2,500 Acres Town Lands,

8,000 Acres Mineral Lands,

Luray Inn and Caverns.

The Valley Land & Improvement Company,

Capital Stock, \$2,000,000.

Luray, Page County, Va.

DIRECTORS.

D. F. KAGEY, Luray, Va., President.	G. C. MARSHALL, Uniontown, Pa., Vice-President and General Manager.
T. E. McCORKLE, Lexington, Va.	DR. W. L. HUDSON, Luray, Va.
DR. A. M. HENKEL, Staunton, Va.	G. K. MULLIN, Philadelphia, Pa.
	J. W. MILLER, Mount Jackson, Va.

EXECUTIVE COMMITTEE.

D. F. KAGEY,	G. C. MARSHALL,	T. E. McCORKLE,	G. K. MULLIN.
Secretary, T. E. McCORKLE.	Treasurer, H. M. KERR, Kagey & Co.'s Bank.	Attorney, T. E. McCORKLE.	
Associate Counsel, H. J. SMOOT,	Manager of Inn and Caverns, G. K. MULLIN.		
Bankers, D. F. KAGEY & CO., Luray, Va.			

CHARTER, PROPERTIES, &c.

The Valley Land & Improvement Company has been organized under the most liberal charter ever granted by the State of Virginia.

2,500 acres for manufacturing purposes and building sites. These lands are in and around the hotel, caverns and town of Luray on an undulating plateau, protected on either side by the Massanutten Mountain and the Blue Ridge Mountains.

8,000 acres of the best mineral properties in Virginia, consisting of iron, manganese and other valuable minerals which have stood the test of examination by the ablest geologists of the country.

The company owns the celebrated Luray Inn and the Luray Caverns.

Page County stands at the head of the list as having a greater variety of minerals and richer than any other county so far as known in the State.

In addition we have the finest kind and a great variety of virgin timber and fire-clays, slates, beautiful marbles, ochres, umber and mineral paints.

LOCATION, RAILROADS, &c.

Luray, now a town of about 2,500, is the county seat of Page county, has five churches, splendid schools, fine stores, three newspapers, flouring mill, cigar factory, &c.

The town is on the Shenandoah Valley Railroad, of the Norfolk & Western system, and is the best location in Virginia, four hours from tidewater.

Two new lines projected connecting closely with Baltimore and Washington and insuring cheap freights.

Luray has largest tannery in the world, annual pay roll over \$350,000.

Inexhaustible water supply, agricultural resources, charming climate.

Fine natural sites for furnaces and manufactories of all kinds fronting the railroad, reserved by the company, which by donations of land and in every possible way will promote Luray's manufacturing interests.

LOTS, CAPITAL STOCK, &c.

Capital stock \$2,000,000, shares \$100.

One million of stock reserved in treasury for betterment.

One million now offered for sale.

Books open at the bank of D. F. Kagey & Co., Luray, Va.

The company reserves the right to close the books any time before the full amount of the one million is sold.

Twenty per cent. must be paid on subscription, 20 per cent in 30 days, the balance equally in six and twelve months.

When half of the subscription is paid in subscribers have the right to use their stock in payment on lot purchases.

The company feels safe in saying that with the magnificent property in hand, the Inn and Caverns, it will be enabled when thoroughly under way to pay four or five per cent. dividend on the stock sold, independent of lots and mineral lands.

The company already owns an electric plant which will be considerably enlarged.

Complete system of water works and many other improvements projected. Investors are referred to Mr. J. W. Wheeler, Cashier Drivers and Mechanics' National Bank, Baltimore, Md., for full information. H. C. Turnbull, Jr., real estate agent, 52 Lexington street, will receive subscriptions of stock in Baltimore.

The fullest investigation invited.

THE VALLEY LAND & IMPROVEMENT COMPANY, LURAY, PAGE COUNTY, VA.

CARDIFF.

The Cardiff Coal & Iron Company,

CARDIFF, TENNESSEE.

Capital, \$5,000,000.

Fifty Thousand Shares—Par \$100.

(CHARTERED BY THE STATE OF TENNESSEE.)

PRESIDENT.

B. B. SMALLEY, BURLINGTON, VT., President of the Ogdensburg & Lake Champlain Railroad Company.

VICE-PRESIDENTS.

W. P. RICE, FORT PAYNE, ALA.

HENRY C. YOUNG, CARDIFF, TENN., of Cordley & Co., Bankers, Boston, Mass.

GENERAL MANAGER, - - - M. M. DUNCAN.

DIRECTORS.

THE PRESIDENT & VICE-PRESIDENTS, Ex Officio.

JOSHUA L. CHAMBERLAIN, NEW YORK CITY, N. Y., Ex-Governor of Maine and President of Bowdoin College; Ex-President of the Association of the Army of the Potomac.

WILLIAM WARNER, KANSAS CITY, MO., of Warner, Deal & Hagerman, Counsellors-at-Law; Ex-Member of Congress from Missouri, and Commander-in-Chief of the Grand Army of the Republic.

SAMUEL E. PINGREE, HARTFORD, VT., Ex-Governor of Vermont; Chairman of the Board of Railroad Commissioners of Vermont.

CHARLES L. JAMES, BOSTON, MASS., of James & Abbot, Lumber.

T. G. MONTAGUE, CHATTANOOGA, TENN., President of the First National Bank of Chattanooga; Director of the Roane Iron Co.

ROBERT PRITCHARD, CHATTANOOGA, TENN., of Pritchard, Sizer & Thomas, Counsellors-at-Law.

J. F. TARWATER, ROCKWOOD, TENN., of Tarwater & Brown, Iron Miners.

J. M. FORD, KANSAS CITY, MO., President of the Fort Payne, Ala., Furnace Co., and of the First National Bank of Denison, Texas.

CARLOS HEARD, BIDDEFORD, ME., Merchant.

JOHN M. WHIPPLE, CLAREMONT, N. H.

FISCAL AGENTS IN THE NORTH.

CORDLEY & CO., BANKERS, 121 Devonshire Street, Boston, Mass.

BANKERS IN THE SOUTH.

FIRST NATIONAL BANK OF CHATTANOOGA, TENN.

TRANSFER AGENTS.

AMERICAN LOAN & TRUST COMPANY, BOSTON, MASS.

THE CARDIFF COAL & IRON COMPANY, at a public sale held April 22d to 24th sold over one million dollars' worth of business and residence property to investors, who will build on and improve the same at once. The prices were conservative and maintained within the limits of actual value. The proceeds of this sale, together with the sum to be contributed by the Cardiff Coal & Iron Company from the sale of its treasury stock, gives the management two million dollars, all of which will be expended in building up the town. The place does not exist that can approximate the inducements that this city now offers to every class of industry and manufacture.

SITUATED IN A HEALTHY CLIMATE,

SUPPLIED WITH PURE WATER,

EXCELLENT TRANSPORTATION FACILITIES,

In the Heart of the Great Iron and Coal Belt of Tennessee,

Surrounded by a rich agricultural community, with every class of business sustained by the demands of the country, Cardiff will furnish to the Manufacturer, the Merchant, the Banker, the Professional Man, the Farmer, the Miner, the Laborer all that reason demands.

Financial Encouragement will be Given Every Class of Business.

The Cardiff town site contains over 3,000 acres. The building of Cardiff is in charge of men of approved judgment and experience. The town will be developed by the erection of Iron Furnaces, Coke Ovens, Hotel, Water Works, Motor Line, Electric Lights, Manufacturing Plants, Public Buildings.

Auction Sale of Inside Lots at Roanoke, Va.

FRIDAY, OCTOBER 17th, 1890.

Cheap Excursion Rates over B. & O. and Shenandoah Valley Roads for this Sale.

The Woodland Park Land Co.

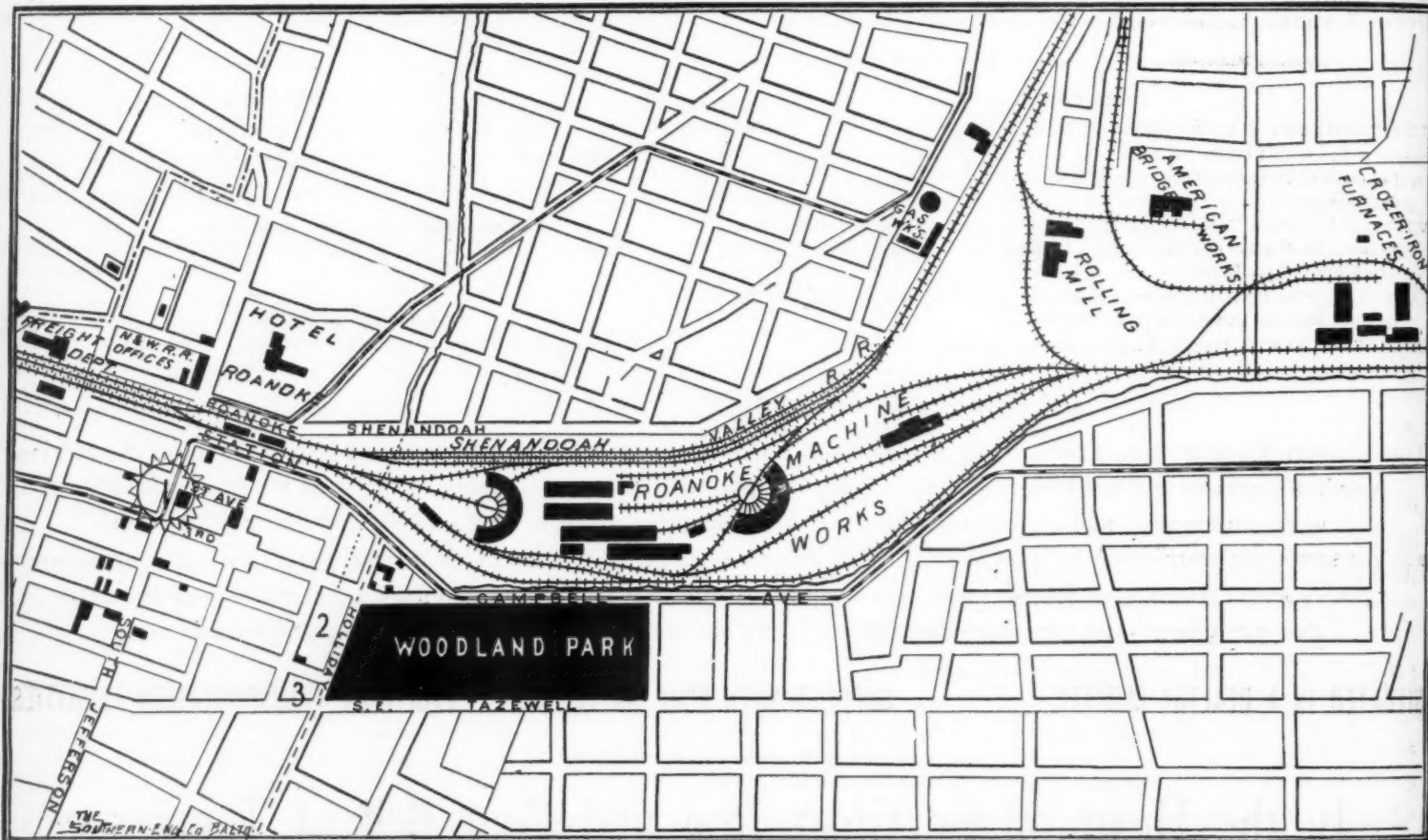
JAMES S. SIMMONS, PREST. AND TREAS.

ROANOKE, VIRGINIA.

This company has purchased the WOODLAND PARK PROPERTY (see map for location) in the heart of Roanoke, and will offer it for sale in lots—50 25-foot business lots and 100 40 foot residence lots. This property is only 3½ blocks from the business center of Roanoke, the great industrial and commercial center of Southwest Virginia.

NOTE President Kimball's announcements about new Roanoke industries.

All the 150 Lots in it will ultimately be BUSINESS PROPERTY.



1.—BUSINESS CENTER OF ROANOKE. 2.—SITE OF ROANOKE & SOUTHERN FREIGHT STATION 3.—SITE OF ROANOKE & SOUTHERN PASSENGER STATION.

ROANOKE is the center and headquarters of the industrial movement in Virginia. It is to-day the most conspicuous city in the mineral belt. Its future is absolutely assured. Railroad facilities, established industries, the best tributary territory in America, the backing of the strongest crowd of investors in the South and the energy and enterprise of its own people are the basis of its present prosperity and insure its future growth. Its record of increase from 400 to 22,000 in the last decade will be outdone in the next decade.

For these reasons Roanoke real estate is gilt-edged. It is a good investment. Added to this is an active local market, in which visitors attracted from all quarters take part. Transactions aggregate hundreds of thousands of dollars weekly. It is a market for quick returns and big profits.

\$300,000 paid out monthly at Roanoke to mechanics, miners and railroad men of the Roanoke district.

Woodland Park has on one side the Roanoke Machine Works, employing 1,600 men and the other big industrial establishments of the city, and on the other side the banks, postoffice, retail stores, railway stations and hotels.

Woodland Park lots will be scheduled at prices that will admit of from 100 to 300 per cent. profit immediately.

It is one of the best opportunities for profitable real estate speculation ever offered in the United States.

Large delegations from Baltimore, Philadelphia and New England are expected to attend this sale. It will be the big event of the autumn in Virginia.

WOODLAND PARK LAND COMPANY,

E. A. PARSONS, Secretary.

JAMES S. SIMMONS, President.

ROANOKE REALTY.

AN AUCTION SALE. On October 17 there will be held at Roanoke, Va., an auction sale of lots in Woodland Park, a body of ground three blocks distant from the business center of the city. This ground is cut east and west by three streets—Campbell on the north, Woodland Avenue in the middle, Tazewell on the south. Campbell Street has here a frontage of 1,250 feet, divided into 25-foot business lots; Woodland is a residence street, and will remain so until business shall grow to it in the future. On its south side are 1,300 feet, divided into 40-foot residence lots, all as pretty as a picture. The 1,300 feet of 40-foot lots opposite on the north side are not so good as the ground dips on that side. Tazewell, the southern boundary of Woodland Park, being quite level, is semi-residence, semi-business. Now if the reader will supply the cross-streets to this description, he will have in his mind a map which it is important to keep before him in following this story to its conclusion.

A POSTULATE. Roanoke, already a city of 20,000, is admittedly one of the future great cities of the Southern industrial region. It has everything in its favor. It is a solid place with an assured metropolitan future as a commercial, railroad and industrial center. But this is no place to argue about Roanoke. Unless the reader understands and admits its commanding position and assured destiny, let him drop this matter right here, because Woodland Park stands or falls by Roanoke.

AN ILLUSTRATION. Thus we start out with two well-defined ideas: The lay-out of Woodland Park and the assured position of Roanoke City. Now for an illustration. Most all great stores, like Macey's, in New York, and Whiteley's, in London, and the Bon Marche, in Paris, have what they call bargain counters. These are trade stimulants or enliveners. They offer to shoppers at certain times certain articles at or below manufacturers' cost. People scramble for these bargains and the shop recoups by other pur-

own in order to accelerate the compassing of her great destiny.

THE PROFITS. Now let us turn a money-making eye toward Woodland Park in Roanoke. Standing at the northwest corner we will take up Campbell Street, the business frontage, first. Remember Campbell is by common consent the coming great thoroughfare of Roanoke. But from the point where we are standing, eastward, Campbell Street represents three great streets, which here form a junc-

like Roanoke \$250 a foot, some might say. Suppose you go to the auction and get it knocked down to you at \$150 or \$100 a foot? Such things do happen at auctions sometimes. Then your profits are as deep as a well and as wide as a barn-door.

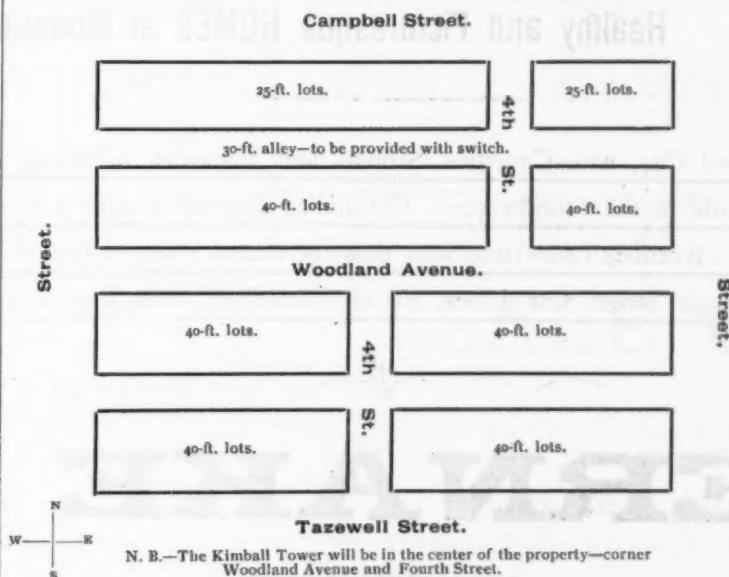
Now let us stand at the southwest corner of the Park and look up Tazewell Street, with its 1,400 feet of 40-foot lots. Adjoining, a lot has changed hands at \$150 a foot. The Roanoke & Southern depot is hard by. Suppose you bid Tazewell in from \$60 down to \$40. You've got a big profit immediately.

Woodland Avenue suggests two points right straight—elevation and foliage. What a grand prospect, what a noble forest! Trees are worth nothing to Campbell Street. The cordwood will pay for clearing. They are valuable on Tazewell and invaluable on Woodland. Have the driving people of Roanoke stopped to consider the value of trees? Woodland Park is clothed with a splendid forest. When Captain Frierson, the celebrated auctioneer, saw the trees, he said they'd be worth \$500 apiece in Chattanooga. On the south side of Woodland Avenue the residence sites are simply unrivalled in Roanoke, because of elevation, foliage and nearness to business. This street will be the last to be taken possession of by business. Some of the frontage has been eagerly sought at \$50 a foot, but it is all reserved for the auction, and will go at auction prices.

Campbell street will be solid business; Tazewell will be utilized for residences, boarding houses perhaps and semi-business, paying heavy income. All the property is choice of its kind, except a few lots which are broken.

This remarkable sale on October 17 will inaugurate the great fall activity in Roanoke.

A ROUGH DIAGRAM OF WOODLAND PARK.



chases of the great crowds thus attracted. Roanoke, like a great and reliable store, has no end of purchasables well worth the money of buyers. Woodland Park is a bargain counter which will attract great crowds of people, who, though they will come for that special purpose, will not confine their purchases to the 50 business lots in Woodland Park, but will see for themselves the great opportunities all over Roanoke, and will invest very largely. Roanoke wants outside investment; she wants new blood and energy to mix with her

tion—Campbell, itself, Salem Avenue and Railroad Avenue. Standing with our face toward Woodland Park, two blocks Westward will be the great Terry office building, costing \$90,000. A few steps distant, at Holliday St., are to be the freight and passenger depots of the Roanoke & Southern. On Campbell St., within half a square, large frontages have already changed hands at prices exceeding \$250 a front foot. From our point of observation, 1,250 feet eastward, extends the business property of this auction, running back to an alley with prospective switching facilities. What is it worth? In a rising market

SAVERNAKE,

Rockbridge County,

VIRGINIA.

—* The Latest and Most Attractive Addition to Buena Vista. *—

The Phenomenal Success of which New Industrial City has made Necessary Future Extensions on the same line of Valuable Minerals,

WITH UNRIVALLED FACILITIES FOR TRANSPORTATION.

SAVERNAKE adjoins Buena Vista on the southwest; fronts on Shenandoah Valley Railroad and on James River Division of the Chesapeake & Ohio Railway.

High Grade Manganese and Iron Ores to Steel and Iron Trades.

* **SAFETY AND PROFIT TO INVESTORS.** *

Healthy and Picturesque HOMES at Moderate Prices to Lot Buyers.

The Advantages of an Established City, with Churches, Schools and Factories adjoining. Employment for Mechanics and Laborers. Active Trade to the Storekeeper. Consuming Industries, with a Ready Market for product to the Manufacturer. Avenues connecting with those of Buena Vista, to Insure Convenient Access, through Street Car Lines, already Projected from that City.

SAVERNAKE

Is laid out in conveniently-sized lots to suit all in Prices and Location.

RESIDENCE LOTS. BUSINESS LOTS. MANUFACTURING SITES.

THE INDUSTRIES already secured, and which will be further announced weekly in the MANUFACTURERS' RECORD, guarantee rapid profits, free from speculative features, to all purchasers.

The LOCH LAIRD ESTATE & MINERAL CO., Limited,
LONDON, ENGLAND.

Of whose property Savernake forms a portion, having already sold a considerable number of lots to investors in London, and being in negotiation with both English and American capitalists for further sales, offer lots in Savernake to the American public, confident that their location will render values at once apparent, and guarantee every effort to sustain and foster this enterprise, both in the United States and England. Maps of Savernake and all particulars of information may be obtained upon application to the

Loch Laird Estate & Mineral Co., Limited,

THOMAS DUNLAP, MANAGING DIRECTOR.

Postoffice Address—Triford, Rockbridge Co., Va.

SAVERNAKE, VIRGINIA.

Railroad Station for both Shenandoah Valley Railroad and Chesapeake & Ohio Railway, Loch Laird Station, Va.

SAVERNAKE,

Rockbridge County,

Virginia.

THE PROPERTY OF THE

Loch Laird Estate & Mineral Co., Limited,

of which Savernake is a part, is in active development, having extremely rich and valuable deposits of

MANGANESE, IRON ORE,

CEMENT ROCK, BROWN STONE, BRICK AND FIRE-CLAY,

BUILDING STONE, KAOLIN.

Arrangements have been concluded, or are in course of negotiation with the following

INDUSTRIES:

Tin-Plate Works, product 3,500 boxes I. C. Tin-Plate weekly.
Ferro-Manganese Furnace.
Ornamental Brick and Tile Works.
Slate Brick Works—patented process.
Manganese Grinding Works.
Cement Kilns and Mill.
Planing Mill and Woodworking Mill.
Iron Foundry and Machine Shop.

WITH THESE ARE PROJECTED:

An Eighty-Ton Blast Furnace.
A Coke Plant.
An Open Hearth Steel Plant, with Plate Mill and Galvanizing Works.

In addition to the foregoing, the following industries have been offered during the past week:

AN IRON BRIDGE WORKS, employing 600 hands.
LOCK FACTORY, HARDWARE FACTORY and a very large
MALLEABLE IRON WORKS from New England.

SALE OF LOTS.

The favor with which Savernake has been received has enabled the company to announce the sale to a syndicate of

SEVEN HUNDRED LOTS,

Equitably distributed throughout the town plot. These lots compose the most

Desirable Residence and Building Lots,

with superior location and magnificent views.

RESIDENCE LOTS, 50x125 feet, 50x175, 50x200 and of larger size when desired.

BUSINESS LOTS.

The map of Savernake contains

TEN BLOCKS OF BUSINESS LOTS.

Fronting on the Industrial Reservation and on Savernake, Victoria and Brudenell Avenues. Many of these have been sold, and at present prices offer a most desirable opportunity for profitable investment.

ESPECIAL RESERVATION OF LOTS FOR MECHANICS AND WORKINGMEN
desiring to build houses. Equitable prices and
easy terms of payments.

CORNWALL,

ROCKBRIDGE COUNTY.

VIRGINIA.

R. E. LEE, President.

G. D. LETCHER, Secretary and Treasurer.

LETCHER & LETCAER, LEXINGTON, VA., Counsel.

DIREOTORS.

C. A. Holt,

C. A. Pfau,

E. B. Moon,

L. H. Woddrop,

Baker P. Lee,

J. C. Shields,

S. H. Letcher,

E. M. Moon,

R. E. Lee.

The Irish Creek Mineral & Development Co.

Capital Stock. \$800,000.00.

THE IRISH CREEK MINERAL & LAND CO. has been chartered by the Circuit Court of Rockbridge County, and its organization affected upon the subscription of the minimum capital stock.

Under this charter we have all the privileges granted to corporations by the legislature, save that of condemnation for railways, and can do all things needful and proper for the building up and developing varied and manifold industries and the arts and manufactures.

It is proposed to plant a manufacturing town, which, from the location selected, is available for manufacturing, building and residential purposes.

The Company has purchased a large body of land lying on both sides of Irish Creek, in Rockbridge County—a clear, bold and unfailing stream—and extends to the east bank of South River, containing about 5,170 acres.

MINERAL LANDS.

At least 4,000 acres of the tract are rich in minerals, iron and manganese ores of the very best character. It is in the line of the well known TIN ORES of this region. It is well timbered, and will furnish an abundance of bark for tanning purposes, as well as the wood for the various woodworking branches and industries. Thorough examinations of this property have been made, and no part of the mineral sections of the State are more favorably known than the IRISH CREEK VALLEY.

The Shenandoah Valley Railroad, the great thoroughfare between the North and South, runs along the western boundary of the property, giving quick and easy communication with all parts of the country.

Very considerable development of the iron ore beds have been made, and can be mined at a minimum cost. The SEIBERT BANK, where the mountain side was stripped off, exposed a vein of rich brown hematite ore 104 feet wide and about 50 feet up the side of the mountain. The Graham Ledge is an immense projection of ore from the side of the mountain about 15 feet high and 30 feet at its base.

The outcrop along the Seibert Ridge extends several miles, crossing the creek and traceable for a long distance through the Clark opening and into the adjoining property. It is the same vein of ore running through the famous Buena Vista property (which it adjoins) and which was so successfully worked for more than 50 years by the Jordans the then greatest iron masters in Virginia.

The several openings and the great outcropping prove the existence of thick ore in inexhaustible quantities, there being no less than 16 separate veins running through the property.

The following is an analysis of the ores tested by Dr. Henry Froehling, of Richmond, Va.: From eight separate packages he got an average of 53 per cent. of metallic iron, 2½ per cent. of silica, 1 per cent. phosphorus.

Hon. E. T. Fristoe, of the Columbia College, of Washington, D. C., made three assays of iron ores taken from this property by Gen. Hurlbut Paine, Washington, D. C., and the metallic iron in each was as follows: One specular 50.19 per cent., two of hematite 55 and 61 per cent., and Mr. Geo. B. Hibbard, of Washington, had one made that was 62 per cent.

The appended table of measurements, with grade of ores, percentage of iron, etc., will no doubt prove of interest; and while some may doubt the correctness of the figures, all doubting minds can rest assured that they are correct. No section on the face of this earth is more richly endowed with mineral wealth as recent discoveries in Rockbridge have shown. Below is a description of the veins:

Vein No. 1.—104 feet wide, 1¼ miles long; brown hematite, high grade of car-wheel iron, and 57.88 per cent. pure metallic iron.

Vein No. 2.—150 feet wide, 950 yards long; manganiferous 55.81 per cent. metallic iron.

Vein No. 3.—150 feet wide 460 yards long; same as No. 2, 50.81 per cent. metallic iron.

Vein No. 4.—30 feet wide, 450 yards long; brown hematite, 53.401 per cent. metallic iron.

Vein No. 5.—45 feet wide, 440 yards long; manganiferous, 53.116 metallic iron.

Vein No. 6.—Width and length of determined, but very large metallic manganese, 44.5:8 per cent.

Vein No. 7.—300 feet wide, 950 yards long; brown hematite, 55.658 per cent. metallic iron. A 50-foot shaft through this vein shows no bottom, and it is believed to be hundreds of feet through.

Vein No. 8.—15 feet wide, 50 yards long; manganiferous, 50.190 per cent. metallic iron.

Vein No. 9.—120 feet wide, 920 yards long; same as No. 8, 57.88 per cent.

Vein No. 10.—24 yards wide, 450 feet long; same as Nos. 8 and 9, 53.117 per cent.

Since this report was made six other veins of ore have been found, some very large in extent, but all hematite manganiferous except one of red hematite, and in the six there is enough manganese to make both spiegeleisen and ferro manganese, so that there are both basic and Bessemer steel ores. Beautiful specimens of float tin have been found on this property, and being so near the tin mines, and the character of the rock being the same (metamorphic), it is reasonably believed that the same veins run through this property that are found through the tin mines.

A large vein of red hematite ore has recently been found which is adapted to the manufacture of Bessemer steel. Its analysis by Professor Fristoe was metallic iron 39 per cent., phosphorus .084 per cent. This was made from a surface specimen, but when the vein is opened it will improve in grade as is the experience of all miners in iron ore. This outcrop is 40 feet wide.

The following is an extract from the report of Mr. C. R. Boyd upon the Graham ore property:

"In the Potsdam, sandstones and slates there are generally three and sometimes four lines of brown and red iron ores, with large quantities of manganese.

These two important ores of iron and manganese alternate with each other in these beds, and frequently are so intimately blended as to form a quite homogeneous manganiferous iron ore.

This is doubtless the case with the Patrick lead, showing so conspicuously on the crest of South Mountain on the northern margin of your property, about one mile air line south of South River and the Shenandoah Valley Railroad. It is true the surface for a width of over 200 feet (directly across the trend of the vein) shows a brown hematite iron ore, but it may safely be assumed that considerable bodies of manganese ore and manganiferous iron ore will be removed, should this seam ever be mined to a depth of several hundred feet, of which it is perfectly capable.

On the ridge south of Irish Creek, visited yesterday morning, the same description of ore shows, and doubtless forms a part of the blanket of ores and rocks that, by their dip, cover the northerly slope of this ridge throughout its length of about three miles on the property.

I found it difficult, in the sort time, to estimate the thickness of any of the deposits of ore seen, but from what I saw I regard the ores as in sufficient quantities to warrant mining operations on a large scale.

It may be proper to remark as to the quality of these ores, that their uses will be in the direction of processes employing a highly basic system of reduction.

An 80-ton furnace might be so constructed that, by the use of these ores, at least 6,000 pounds of phosphorus could be eliminated in four hours and employed as a constituent in the production of phosphate fertilizers.

You have the facility of attacking these ores rendered by the fact that the property is cleft throughout its greatest length by Irish Creek and its tributaries, down which is a good ore railway grade to the Shenandoah Valley Railroad."

Prof. N. S. Shaler, in the Arena, says: "The Shenandoah district of Virginia abounds in workable deposits of this mineral. The peculiar advantages of the Appalachian district is found in the fact that the ores lie in the neighborhood of excellent coal beds, which, in certain cases, can be used as it comes from the mine, or may be made to serve the needs of the smelter after it is converted into coke. The average distance of the iron ores from the coal needed to reduce it to the metallic state does not probably exceed 100 miles. Enough ore to make a ton of iron can at any point be mined and put in the furnace at a cost of between \$1 and \$2, while to bring the same amount of raw material from the earth about Lake Superior to the smelting point costs at the present time from \$9 to \$12."

Mr. John Jordan, one of the old furnace men and owners of Buena Vista, says that in 50 years' running of his and his father's furnaces the average of the ores taken from the mines at Buena Vista is 53 per cent. metallic iron.

The estimate for making here a ton of coke iron by a practical furnace man is \$8.50.

NAME.	ADDRESS.	Number of Shares Subscribed for.	Aggregate Amount to be Paid for all Stock Subscribed for.	

Circular No. 4.

Office of **The Grottoes Company,**

Shendun, Va. (Grottoes Station, Shen. Val. Ry.), Sept. 22, 1890.

To the Stockholders of The Grottoes Company :

The management of your Company takes this method of informing you that the 15,000 shares of its stock offered for sale by Circular No. 3, of July 14th, were all sold by the 15th of September, and that offers were subsequently made for many thousand more. Our stock is now in demand at a very considerable premium.

To protect your individual interest, as well as those of the Company, the management orders as follows:

First.—All the issue of Stock offered for sale by Circular No. 3 from this office having been disposed of, the books for the transfer of the Stock of this Company will be closed at noon, Sept. 24th, 1890, and remain closed until noon of Oct. 24th, 1890, to enable the Company to prepare a list of its stockholders qualified to participate in the public drawing for business and residence lots, which will take place at Shendun, October 14, 1890, beginning at 11 o'clock in the forenoon.

Second.—Each person who has paid all the assessments due prior to Oct. 14th on the stock he has subscribed for, will be entitled to draw a lot for each five shares of Stock standing in his name on that date.

Thrd.—Maps of Shendun, showing the lots that will be drawn for and those that the Company will offer for sale after the drawing, will be sent to each subscriber before the day of allotment.

Fourth.—After the allotment has been made, the Company will offer a number of alternate lots for sale at auction on that and the two following days.

We hope you will not only attend the drawing and sale of lots in person, but that you will bring others with you who may become interested in Shendun. Ample provision will be made for trains and for the entertainment of all who come. The street cars will be running for the whole length of Shendun as now laid out.

By order of the Executive Committee.

Jed. Hotchkiss,
President.

A. M. Howison, Secretary.

The Stanley Furnace & Land Co.

OF

STANLEY, Virginia.

FORMERLY SANDS, VA.

The Manganese City.

CAPITAL STOCK \$1,000,000.

SHARES \$100.

JAMES MAC NIDER, President.
T. J. McSPEIDEN, M. E., Vice-President and General Manager.
GEO. J. KIELY, Treasurer.
JAMES T. HYDE, Secretary.
S. J. RICHEY, Attorney.

DIRECTORS.

JAMES MAC NIDER, 138 Water Street, New York.
T. J. McSPEIDEN, M. E., Stanley, Va.
MAJOR ARTHUR PARKER, 7 and 9 Dey Street, New York.
JAMES T. HYDE, 30 Broad Street, New York.
GEO. W. KIELY, Toronto.
D. F. KAGEY, Luray, Va.
S. J. RICHEY, Luray, Va.
GEO. J. KIELY, Stanley, Va.

BANKERS.

D. F. KAGEY & CO., Luray, Va.
THE HANOVER NATIONAL BANK, New York.

The company owns 1,100 acres of Building Lands; also, over 5,000 acres of Mineral Lands, embracing Manganese, Iron, Copper, Slates and Building Stone.

The building lands surround the present town of Stanley (formerly Sands), and are located on an elevated plateau in the center of the beautiful Page valley, eight miles south of Luray, on the Shenandoah Valley Railroad. Surveys of the new avenues and streets are now completed.

Maps, designating villa, residential sites, lots for business purposes and locations for manufacturing enterprises will be ready for distribution in a few days.

Locations for meritorious manufacturing plants will be given free.

The surrounding valley and mountain scenery afford a panorama of unparalleled grandeur.

The street beds will be heavily metaled with white quartzite.

Electric light and water works will be provided at once. The supply of water will come from several adjacent springs in the Blue Ridge, two of which are lithia, affording the inhabitants a drinking fluid unequalled in purity and temperature.

The mineral belt owned by the company, adjacent to the town lands, embraces the richest Manganese and Iron district in the South, so pronounced by the highest authorities. The Manganese district is the larger part of that in which are located the celebrated Eureka Manganese Mines, the rival of the famed Crimora Mines.

Contracts are being made for the erection of a Ferro Manganese Furnace, 100 tons capacity, and an Iron Furnace 200 tons capacity.

Several manufacturing enterprises are already established.

The great and inexhaustible forests of the Blue Ridge, near by, have made Stanley for years past one of the heaviest shipping points for all kinds of timber and bark in this section of Virginia.

Six passenger trains daily, north and south. The Shenandoah Valley Railroad connects with other lines at Hagerstown, Md., at Shenandoah Junction, at Charlestown, at Riverton, at Waynesboro' and at Roanoke, affording an outlet for shipments to every section of the United States.

\$500,000 of the stock remains in the treasury subject to the control of the stockholders for any further betterments that may be determined upon.

Terms of subscription, 10 per cent. down on each share, and 5 per cent. monthly until paid in full.

A limited amount of the \$500,000 placed on the market may be had upon application to D. F. KAGEY & CO., Bankers, Luray, Va., or GEO. J. KIELY, Treasurer, Stanley, formerly Sands P. O., Page Co., Va., who will give all further information.

THE PUBLIC SALE OF LOTS

WILL TAKE PLACE ON

OCTOBER 21, 22 AND 23.

Maslin's Patent Steam Pump.

Pat. Feb. 12, & Dec. 3, '89.
Cheapest and Best Automatic Steam Vacuum Pump. Handling DIRTY and GRITTY LIQUIDS without Wear, Oil or Care. Simple, Economical, Efficient & Durable. Pumping Plants for Contractors, Irrigation, Water Works, Railroads, Mining & General Hydraulic Purposes. Write or call for Circulars. JOHN MASLIN & SON, SOLE MANUFACTURERS, 105-107 2nd St., Jersey City, N. J.

**COMPLETE STEAM PUMP**

10 SIZES FROM \$7 TO \$75

FOR DRIVE WELLS & ETC.

WRITE FOR PRICES AND

DESCRIPTIVE CIRCULARS

VAN DUZEN & TIFT

SOLE MAKERS, CINCINNATI, O.

For Returning Hot Condensed Water to Boiler.

STEAM PUMPS FOR ALL DUTIES.

The Buffalo Steam Pump Co.

BUFFALO, N. Y.

Subscribe to the MANUFACTURERS' RECORD

Price \$4.00 a year, or six months for \$2.00.

TRADE MARK. A complete outfit. Easy to put up, always reliable and fully warranted to meet the wants of any farmer.

BEST HAY TOOLS IN THE MARKET.

MYERS' FORCE AND LIFT PUMPS

Simple, durable, powerful, easy to operate never affected by frost. Patent GLASS VALVE, will never corrode. Ask your dealer for our goods. Write for catalogue.

F. E. MYERS & BRO. ASHLAND, O.

GREATEST IMPROVEMENT OF THE AGE

BLAKESLEE MFG. CO.

DU. QUOIN ILL.

SEND FOR CATALOGUE

STEAM PUMPS.

We have just issued a new illustrated catalogue of our Steam & Jet Pumps. A copy will be mailed free on application.

THE LADLAW & DUNN CO.

STANDARD COMPOUND STEAM PUMP.

STANDARD DUPLEX STEAM PUMP.

STANDARD DUPLEX STEAM PUMP.

PUMPS OF EVERY DESCRIPTION.

CINCINNATI, O.

SEND FOR CIRCULAR

GEO. F. BLAKE MFG. CO.

BUILDERS OF STEAM AND POWER

Pumping Machinery

111 Federal Street, Boston.

95 and 97 Liberty St., N. Y., 535 Arch St., Philadelphia.

The Baldwinsville Centrifugal Pump.

OLDEST, BEST AND LATEST IMPROVED.

Especially adapted for contractors' use, Pumping Coffin Dams, Sewers, Sand-Pumping, etc.

Irrigating Plants a Specialty. Address for catalogue,

IRVIN VAN WIE, 48 & 50 West St., Syracuse, N. Y.

Established 1861. Removed to Syracuse 1881.

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RUNNING MILLS, FURNACES, WATER WORKS, FACTORIES, MINES ETC.

ALL TOWN FOUNDRY & MACHINE CO.

ALL TOWN, PA.

MANUFACTURERS OF THE

IMPROVED EUREKA TURBINE

FOR ECONOMY OF WATER WITH GREATEST EFFICIENCY

"THE BEST IN THE WORLD"

REPEATED TESTS AT HOLYOKE, MASS. GIVE IT 3 PER CENT GREATER EFFICIENCY THAN ANY OTHER

WHEEL TESTED THERE. ITS USE IN MINING DISTRICTS

WITH SMALL AMOUNT OF WATER AND HIGH HEAD IS OF THE GREATEST ADVANTAGE. OVER 800 NOW IN USE

SEND FOR CATALOGUE

MILLS, FURNACES, WATER WORKS, FACTORIES, MINES ETC.

RODNEY HUNT MACHINE CO.

ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS,

Turbine Water Wheels

VERTICAL AND HORIZONTAL.

IRON FLUMES and PENSTOCKS, HEAD GATE GEARING, REGULATORS, and everything pertaining to Water Wheels and Mill Work.

These Wheels are Superior for High Power and Efficiency, Excellent Workmanship and Great Durability. Tight Closing Gate; Easily Operated.

Used in many of the largest manufacturing establishments in the United States. 4,800 horse-power furnished one mill, 7,300 to another, 2,000 in one cotton mill, and one manufacturer 76 wheels. All now running.

54 in. wheel tested in mill after running two years..... \$430

36 in. wheel at Holyoke Testing Flume..... \$516

30 in. wheel at Holyoke Testing Flume..... \$900

30 in. wheel at Holyoke Testing Flume (another wheel)..... \$780

30 in. (deep wheel) at Holyoke Testing Flume..... \$461

PART GATE.

30 in. wheel at Holyoke Testing Flume. Proportional quantity of water, .769, one-half gate opening..... \$642

Proportional quantity of water, .561, one-third gate opening..... \$783

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VICTOR TURBINE

ON HORIZONTAL SHAFT.

SINGLE OR IN PAIRS.

DISPENSING ENTIRELY WITH GEARS.

Actual Test of the VICTOR in Testing Flume, Holyoke, Mass.

Size of Wheel.	Head in Ft.	Horse Power.	Per Ct. Useful Effect.
15-inch	18.06	30.17	.8332
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40-inch	16.49	148.93	.8253
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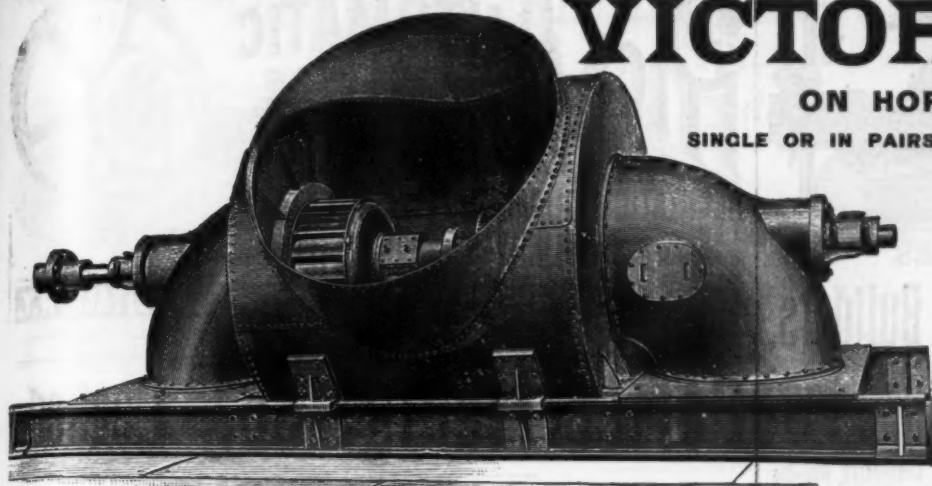
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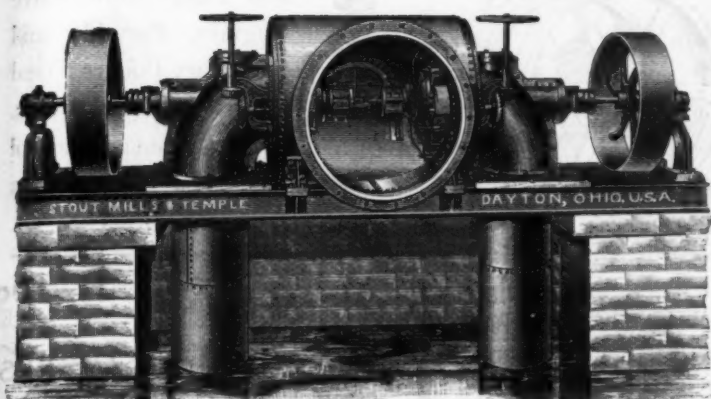
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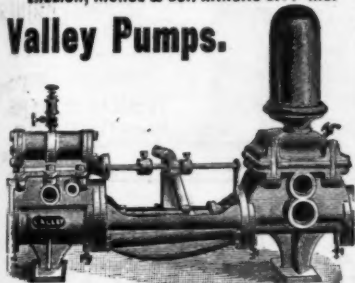
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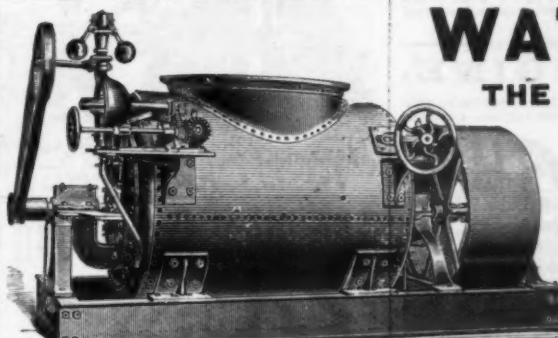


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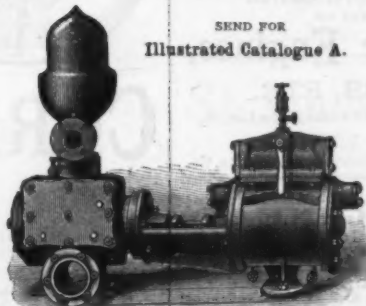
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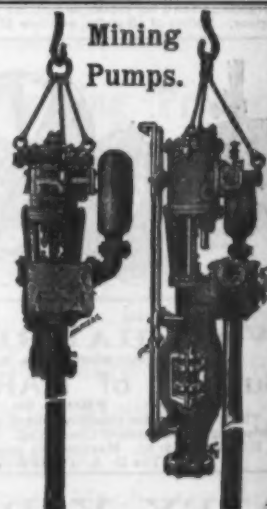
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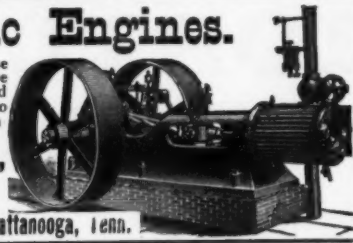
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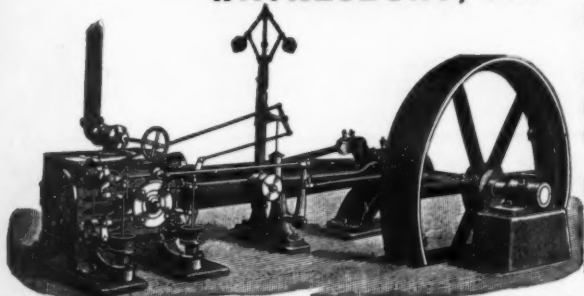
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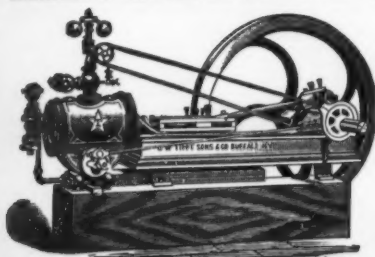
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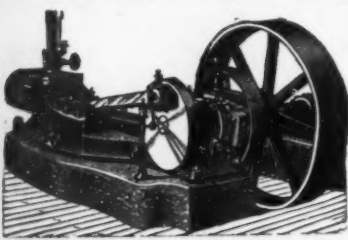
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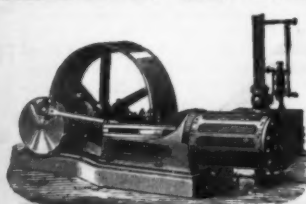
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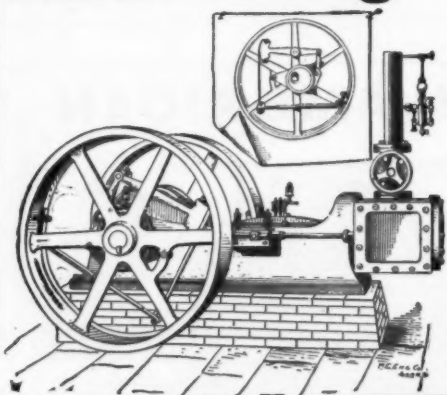
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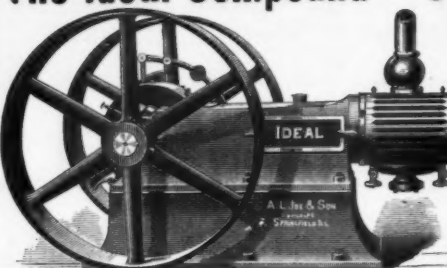
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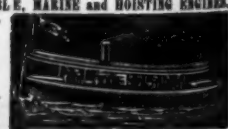
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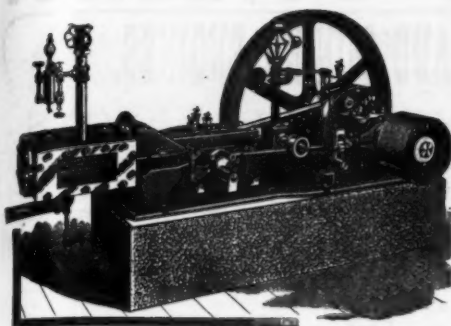
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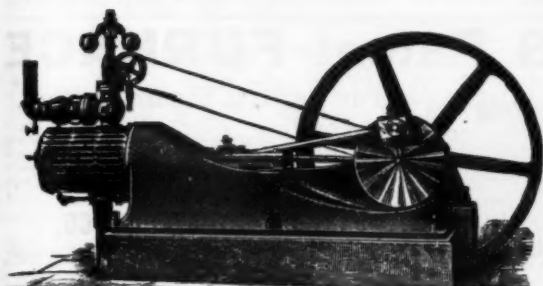
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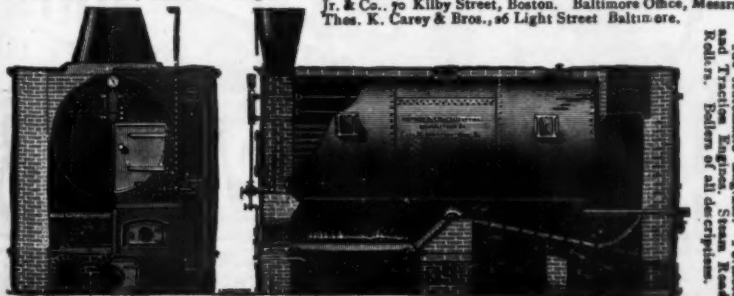
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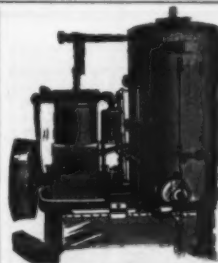
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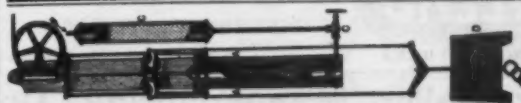
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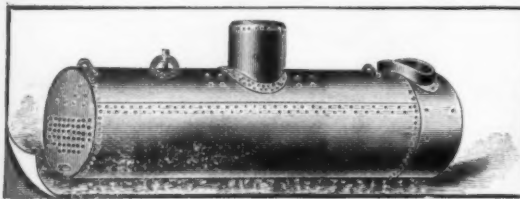
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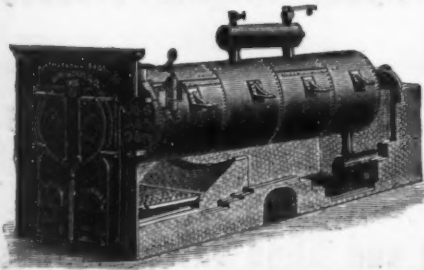
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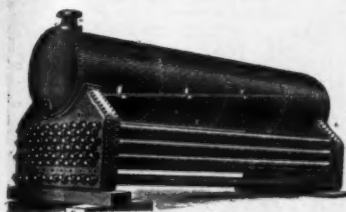
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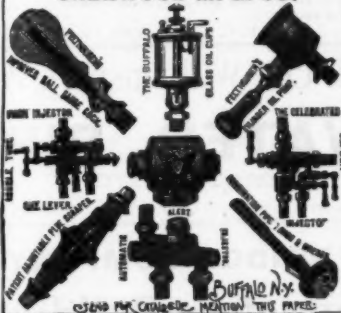
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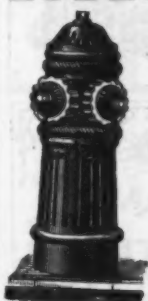
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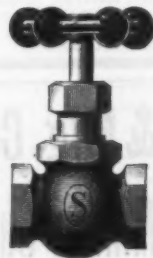


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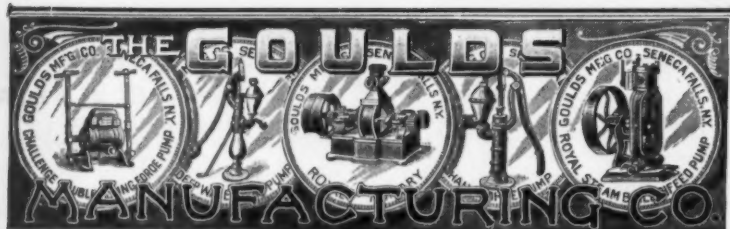
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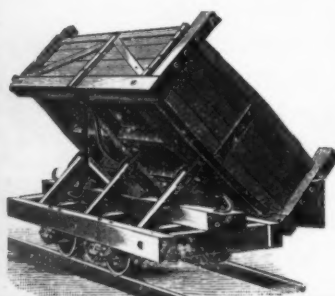
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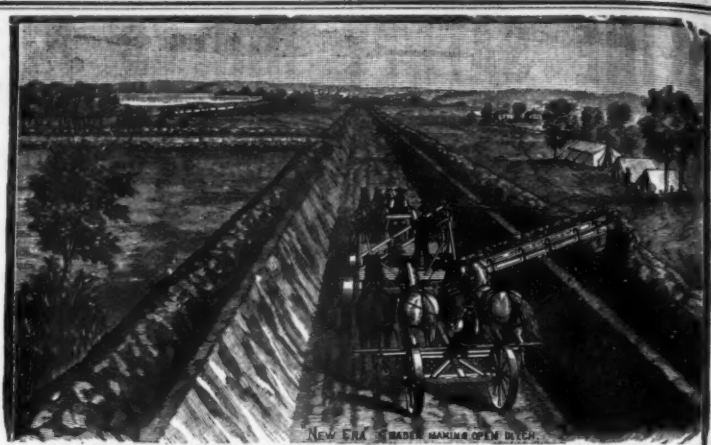
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Railroad Construction

Ashville, Ala.—Railroad.—The Ashville Railroad Co. is to track and equip with rolling stock its railroad, previously mentioned, in the next 30 days. A preliminary survey is being made for an extension of the road towards the Tennessee river.

Athens, Ga.—Electrical Railroad.—The Athens Railway Co., J. T. Voss, manager, will probably extend its line and change to an electric road.

Beaumont, Texas.—Electrical Railroad.—The Beaumont Ice, Light & Refrigerating Co. is reported as forming a stock company to build an electrical railroad.

Bluefield, W. Va.—Railroad.—The Bluefield & Princeton Railroad Co. has been incorporated by David E. Johnston, G. L. Karnes, H. W. Straley and others to build a railroad from Bluefield to Princeton.

Buena Vista, Va.—Street Railroad.—The Buena Vista Street Railway Co., mentioned last week, will build 2 or 3 miles of street railway.*

Chattanooga, Tenn.—Railroad.—M. M. Henderson, C. S. Henry and others, reported last week as contemplating the construction of an incline railway up Lookout mountain, have chartered a company for that purpose; also to construct a horse, steam, cable or electric street railway.

Chattanooga, Tenn.—Railroad.—Arrangements are reported as to be completed shortly for the commencement of work on the Chattanooga & National Park Railway.

Chattanooga, Tenn.—Belt Railroad.—It is stated that the Chattanooga Belt Railroad will be double-tracked.

Clarksville, Tenn.—Street Railway.—It is stated that if the Idaho Springs and Dunbar Cave property is purchased by the English syndicate referred to elsewhere in this issue, a street railway will be constructed from Clarksville to same. P. Johnson can give information.

Columbus, Ga.—Electrical Railroad.—The Columbus Railroad Co. contemplates operating its road by electricity.

Conroe, Texas.—Railroad.—The Gulf, Colorado & Santa Fe Railway Co. (office, Galveston) is reported as surveying an extension of its road from Conroe.

Danbury, N. C.—Railroad.—It is reported that arrangements have been made for the building of a branch railroad to Danbury.

Danville, Va.—Railroad.—The railroad mentioned last week as to be built by a syndicate from Danville to Bristol, Tenn., is the projected Danville & East Tennessee Railroad. T. W. M. Draper, of Norfolk, is chief engineer.

Gadsden, Ala.—Electrical Railroad.—The motive power of the Gadsden & Attalla Dummv Line will, it is reported, be changed to electricity.

Garrett (P. O. Guide), Texas.—Railroad.—The Houston & Texas Central Railroad Co. (office, Houston) is reported as to lay another track from Garrett to Ennis.

Georgetown, Texas.—Street Railway.—A proposition is being considered for the construction of a street railway.

Georgetown, Texas.—Railroad.—A \$50,000 stock company is reported as to be organized to build a railroad from Somerville via Georgetown to Llano.

Grayson, Ky.—Railroad.—The report referred to elsewhere in this issue that Hon. J. G. Blaine, of Washington, D. C., Hon. S. B. Elkins, of Elkins, W. Va., and Hon. H. G. Davis, of Piedmont, W. Va., had purchased 10,000 acres of land, also stated that they would build a railroad.

Hopkinsville, Ky.—Railroad.—A survey is to be made soon of the route of the proposed Cumberland Gap & Mississippi Valley Railroad, previously reported.

Jasper, Fla.—Railroad.—The Muskegon Lumber Co. will lay about 3 miles of 16 or 20-pound T rails.*

Macon, Ga.—Railroad.—It is stated that the Macon Construction Co., which is to build the Macon & Atlantic Railroad, has purchased 5,000 acres of land along the Colleton river and intends making the property the seaport terminus of that road and building a commercial city. The company has succeeded in placing the bonds for constructing the road.

Middlesborough, Ky.—Belt Railroad.—The Middlesborough Belt Railway Co. will, it is stated, extend its Stony Fork spur 6 miles and Hignites branch 3 miles.

Mobile, Ala.—Railroad.—The consolidation is reported of the Mobile & Mississippi Railroad Co., organized to build a railroad from Mobile to Natchez, Port Gibson or some other point on the Mississippi river, and the Mississippi & Mexican Gulf Railroad Co., organized to build a road from Port Gibson to some point on the Gulf of Mexico. The consolidation will be known as the Mobile, Wesson & Mississippi River Railroad Co., and it is expected that arrangements can be made soon for construction.

Norfolk, Va.—Electrical Railroad.—The purchasers of the Glenair farm, mentioned elsewhere in this issue, will, it is stated, construct an electrical railroad.

Pineville, Ky.—Railroad.—The West Virginia, Pineville & Tennessee Railroad Co., referred to last week, will build 5 miles of road up Clear creek with the intention, it is stated, ultimately to extend the road on up Big Clear creek to Jellico. A branch line up Little creek to Middlesborough is also said to be probable.

Ruston, La.—Street Railway.—The construction of a street railway is proposed.

San Angelo, Texas.—Railroad.—It is proposed to organize a stock company to be known as the San Angelo, Abilene, Henrietta & Red River Railroad Co. to build a railroad from San Angelo via Abilene to Henrietta. J. G. Murphy can give particulars.

St. Augustine, Fla.—Electrical Railroad.—The Electric Belt Line Railway Co., lately reported as being organized to construct an electrical railroad, has been incorporated with a capital stock of \$75,000.

St. Joseph, La.—Railroad.—The building of a narrow-gauge railroad from St. Joseph to New Light, on Texas river, is a possibility.

Talladega, Ala.—Railroad.—The Talladega & Coosa Valley Railroad, extending from Talladega to Pell City, about 27 miles, has been purchased by the Birmingham & Atlantic Railroad Co., which will, it is stated, extend it from Pell City to Birmingham and from Talladega eastward. The Birmingham & Atlantic Railroad Co. holds a stockholders' meeting in Talladega on November 18 to consider the issuance of first mortgage bonds to cancel existing indebtedness.

Tallahassee, Fla.—Railroad.—The Tallahassee & Northern Railroad Co., previously reported, contemplates building a railroad from Tallahassee to Thomasville, Ga., connecting with the Georgia Southern & Florida Railroad.

Taylor, Texas.—Street Railway.—The Taylor Street Railway Co. has been chartered by A. T. Doak, J. A. Gano and A. L. Penn. The capital stock is \$20,000.

Texarkana, Ark.—Electrical Railroad.—The Texarkana Gas & Electric Railway Co., mentioned elsewhere in this issue, also purchased the property of the Texarkana Street Railway Co., and proposes equipping the road with electric power at a cost of about \$40,000.

Tredegar (P. O. Jacksonville), Ala.—Street Railway.—A Baltimore company has, it is reported, applied for a franchise to construct a street railway. The Jacksonville Mining & Manufacturing Co. can give information.

Wilmington, N. C.—Electrical Railroad.—The Wilmington Street Railway is said to have been purchased by E. L. Hawks and associates, who will change same to an electrical road.

Wytheville, Va.—Street Railroad.—Northern parties have applied for a franchise to construct a street railway. The Wytheville Development Co. can give information when anything is done.

THE Virginia Steel, Iron & Slate Co. has been organized with F. T. Anderson, of Richmond, Va., president and general manager; H. W. Flournoy, vice-president, and J. G. Hawkins, secretary. The company has secured 4,000 acres of valuable land adjacent to and including the town of Howardsville, Va.; also from 10,000 to 20,000 acres of mineral lands containing magnetic, specular and brown hematite iron ores in large quantities, and claims that it possesses the best steel ores in the South. It is intended to build a new town to be known as Logan City, and the capital stock of the company is \$2,000,000.

THE recent visit to New York of President W. B. Sparks, of the Macon Construction Co., of Macon, Ga., which is to build the Macon & Atlantic, a projected air line from Macon to the coast, resulted in the placing of the bonds for constructing the line and the purchase of 5,000 acres of land stretching along the shores of Colleton river, an arm of Port Royal sound. It is intended to make the seaport terminus of the Macon & Atlantic on this property, which is to be laid off in lots and preparations made for establishing a commercial city. The harbor is claimed to be superior to Port Royal, Savannah and Brunswick, and is described as straight and wide, and as having at mean low tide a depth of 21½ feet. Grain elevators, coaling station and other requisites for a large seaport city are to be built.

A Visit to Roanoke.

ROANOKE, VA., October 4, 1890.

Editor Manufacturers' Record:

"The future of Roanoke" as set forth by your accomplished correspondent, Mr. Thomas P. Grasty, in the MANUFACTURERS' RECORD of September 27th, induced me to make a stop over at this place, where I have remained for several days, endeavoring to learn all I could about it and its surroundings. I had frequently passed here on night trains, but, with a single exception, had never seen the place by daylight, and in that one instance I was much more solicitous to find comfort for the inner man than I was to learn anything about the rolling land I looked out upon, over which were scattered a few farm houses, and where the railroad company was putting up its buildings. That was some seven or eight years ago. I had no idea then that those farms would be cut up into streets and lots, that iron furnaces and manufactories were to be built, that business blocks would rise almost magically and cover the green pastures, that national banks, brokers' offices, huge hotels and well stocked stores would surround the little depot, or that before that decade ended 20,000 people would find their way to this all-out-of-doors spot and build churches, schools and universities, as well as homes and all kinds of structures for use in their various avocations.

I went to the Hotel Roanoke and could not get a room that night. It was filled with guests, residents and transients. I went to the Felix, another good-sized inn. Mine host managed to find a solitary double bed-room for my friend and myself. The next day I began to look around to learn why these things were so. I found Mr. Grasty had been conservative in his statements, and that his predictions of Roanoke's future were absolutely modest in comparison with those I am inclined to make, but shall not.

I went to the summit of an eminence, about half a mile from the railroad station, whereon stands the fine brick building of the Baptist University, the first of a series that will arise, and saw before me an astonishing sight. Off to my left were the red frame work and lofty chimney-stack of a great blast furnace, the smoke streaming out upon the air, telling of the great fires that were glowing below. Other furnaces I saw that my pleasant guide told me would soon be ready to go into blast. Scattered about on the lovely slopes or the commanding positions at their summits were hundreds of residences of modern architecture, surrounded by flower beds, lawns and shrubbery, that told of a well-to-do and cultivated community. In front of me in the valley extended the numerous tracks of the Norfolk & Western Railroad. Some were sidings filled with cars of coal, coke, pig iron and other freights, representing the output of the vast mineral district of which Roanoke is the center. On others were cars filled with merchandise which scores of men were transferring to numberless drays, for the merchants of this city are a busy set, and their trade compels them to renew their stocks unceasingly. Eight long coal trains were coming in or going out of town, while from the distance came the whistles of locomotives I could not see, presumably drawing behind them other laden trains. Around the freight and passenger stations, and on lines parallel with the railroad tracks, mercantile houses are closely crowded, but between them and the lovely residence quarters are scores of manufacturing establishments of greater or lesser magnitude, all humming with industry and alive with busy toilers. Most wonderful of all these were the Roanoke Machine Works, where 1,600 men are employed and cannot keep up with the orders that pour in upon the company. As I

looked down upon this wide-awake, bustling city, I rubbed my eyes in astonishment. Then I asked my guide why it was that a gentle swell of land near the railroad station, and on the line of the chief business streets which ended at it, stood there covered with a virgin forest, while the land for nearly two miles beyond was thickly dotted over with factories and residences. He laughingly replied, "That is a piece of stupidity for which our people once cursed and now bless our common council." In answer to other questions, he told me that the owners of that property, with a proper sense of the fitness of things, reserved it for a public park and offered it as a gift to the city. The council would not accept it, and so it remained there while the city spread all around it. Very recently the owners had withdrawn their offer and had sold the land to a syndicate of business men who were now cutting streets through it and would soon offer it for sale. "Come here on the 17th of this month," he said, and you will see the most spirited bidding that ever occurred at a Southern land sale. Our people all appreciate its present and prospective value, but they are not the only ones. Visitors by the score have left orders here with our real estate men to buy lots for them there. It will be a lively time, I tell you, and well worth seeing." Then I remembered what Mr. Grasty wrote—"The real cream is just beginning to come to the surface"—and so I drove over to that spot and examined it. Nothing like it have I ever seen in all my travels. Here in the very business center of a great and growing city are about fourteen acres of wild land about to be put upon the market. If the people of my own beautiful native city should decide to sell "New Haven Green" for business purposes, the relative price that lots there would command would illustrate the situation here. I shall certainly try to come back and attend this sale, for it will be *sui generis* in the history of city growth in the South.

A NEW ENGLAND JOURNALIST.

Excursion to Roanoke.

An excursion without its equal in interest, to Baltimore people especially, and to the citizens of Maryland as a whole, will leave Philadelphia by the Baltimore & Ohio Railroad Thursday morning at 8.15, and start from this city soon after 10 o'clock. From here the route will be over the Baltimore & Ohio to Shenandoah Junction, and from thence by the Shenandoah Railroad to Roanoke, arriving there at 9 o'clock P. M. The next day and night will be spent at Roanoke, the excursion train leaving there on the morning of the 18th, and reaching Baltimore at an early hour in the evening. The return trip will be from Roanoke to Loch Laird over the Shenandoah Road, thence via the Chesapeake & Ohio Road to Lexington, the present terminus of the Valley Branch of the Baltimore & Ohio Road, and from there home by that railroad.

This excursion will afford the best opportunity yet offered to the public to see the famous scenery of the two valleys and the numerous flourishing towns and cities that are strung like jewels on a necklace at frequent intervals all along both routes. More than all, it will enable the business men of Baltimore to see something of the rich resources of a region of which their city is the natural metropolis and commercial seaport. All who are fond of visiting scenes memorable in history, or of looking upon beautiful and varied landscapes, as well as all who are interested in increasing the commerce and trade of Baltimore, should avail themselves of this rare opportunity to see by daylight the two beautiful valleys through which this excursion will run. Tickets for the round trip will be but \$5 from Baltimore, with a corresponding reduction from Washington and other points on the line.

MIDDLESBOROUGH, KY.

An Entire Train Loaded With the Natural Resources of that Flourishing Town Sent Forth to Louisville, Cincinnati, Knoxville, Atlanta and Other Points.

MIDDLESBOROUGH, KY., Oct. 3, 1890.
Editor *Manufacturers' Record*:

A train of twenty flat cars loaded with the mineral products that so plentifully abound in and around Middlesborough left here on Tuesday last for Louisville and other points, drawn by an engine belonging to the Middlesborough Belt Railway Co., for the purpose of more practically placing before the people of the country the wonderful and varied resources of the mineral deposits in and around Middlesborough. It is an object lesson that cannot fail to interest every enterprising citizen of this section of the country, whether he has interests in Middlesborough or not, and it will be a pleasure as well as satisfaction for many to learn, in such an impressive manner, that the mountains of Kentucky are filled with the richest kinds of mineral deposits which, in the course of time, must add greatly to the material prosperity of the State.

It will be a difficult matter to describe the cargo so as to give an adequate idea of its interesting features, which must be seen to be properly understood and appreciated. The first three cars are loaded with hickory, chestnut, white and black oak, white walnut and yellow poplar logs, cut from the timber lands of the American Association. They are fine, valuable specimens of valuable wood, which is now becoming scarce in so many sections of the country. There are large quantities of this timber in the forests which surround Middlesborough, and it will take years to exhaust the supply. The next car is loaded with tan bark gathered from the chestnut oaks, which abound in great quantities. One of the leading industries of Middlesborough is a large tannery, which handles from 700 to 800 hides per day. In their manufacture into leather, large quantities of tan bark are required, and this is found in abundance right at the door. The next sixteen cars are loaded with minerals, and nearly every useful mineral found in the world is included in this collection. The fifth and sixth cars contain, respectively, limonite and oriskany ores; the next two cars are filled with fossil ores, one from the upper and the other from the lower seam. The ninth car contains limestone furnace flux, used in fluxing iron ore. In the next two cars are found Kentucky and Tennessee sandstone, of a superior quality, used for building purposes. A car-load of Tennessee marble comes next, followed by a car-load of conglomerate used in the manufacture of fire-brick, and a car-load of glass sand. The following cars contain domestic coal, followed by a car of steam and coking coal. Then comes a car-load of coke manufactured in the furnaces of Middlesborough. At the end of the train are three car-loads of fire-clay, classified in quality as numbers one, two and three. This completes the collection, and it is safe to say that no such exhibit of mineral and timber resources was ever seen in this section of the country before. All of it is from the lands of the American Association, Limited, which owns the town-site of Middlesborough and the thousand acres of timber and mineral lands which surround it.

This train, after staying a few days in Louisville, will proceed to Cincinnati, and thence go to Knoxville, where it will be one of the leading attractions during the great Veteran Reunion which takes place in that city, commencing next week. From there it goes to Atlanta, Ga., and will be given a prominent place in the Piedmont Exposition. On the 17th of the month it

will return to Middlesborough, and will be on exhibition here during the visit of the steel and iron men of America, England, France and Germany.

Southern Financial News.

NEW BANKS.

Albany, Ga.—A new bank is projected.

Atlanta, Ga.—The Fulton Loan & Banking Co. has been organized by C. K. Maddox, J. Hurt, W. T. Gentry and others. The capital stock is \$365,000.

Augusta, Ga.—It is stated that the next legislature will be petitioned for a charter for the Augusta Dime Savings Bank.

Birmingham, Ala.—The Nickel Savings Bank has commenced business with T. H. Herndon, president.

DeLeon, Texas.—A national bank is projected.

Glasgow, Va.—Judge Avery, of the Aetna Fire Insurance Co., of Cincinnati, Ohio, will, it is reported, organize a national bank with a capital stock of \$50,000.

Gloster, Miss.—The Bank of Gloster has been organized with G. H. Barney, president, and L. B. Robinson, cashier. The capital stock is \$40,000.

Grape Vine, Texas.—Fort Worth parties are reported as to establish a bank.

Lynnville, Tenn.—It is stated that the Lynnville Bank & Trust Co. has been chartered.

Madison, Fla.—The establishment of a bank is talked of.

Montgomery, Ala.—The Florence Loan & Trust Co. has been incorporated by N. C. Elting, A. W. Stockell and others. The capital stock is \$100,000.

Owensboro, Ky.—The Dime Savings Bank has been organized with Robert Brodie, president, and R. S. Sanders, cashier.

Paducah, Ky.—The Paducah Safe Deposit & Trust Co., previously reported, has been organized with J. J. Guthrie, president, and G. C. Hughes, cashier. The capital stock is \$200,000.

Valdosta, Ga.—The bank previously mentioned has commenced business under the name of the First National Bank of Valdosta. The capital stock is \$50,000.

Baltimore, Md.—The National Marine Bank has declared a semi-annual dividend of 3 per cent.

Baltimore, Md.—The Savings Bank of Baltimore has purchased \$17,300 of the \$5,000,000 improvement bonds, the finance commissioners \$69,700 for the sinking fund, and \$53,000 worth was disposed of through Frank, Rosenberg & Co. The price paid was \$1.04 1/2.

Baltimore, Md.—The Baltimore Mercantile Trust Co. has been made trustee under a mortgage for \$500,000 of six per cent. bonds of the Albany, Florida & Northern Railroad Co.; also for Montgomery Terminal & Street Railway Co., \$200,000, six per cent.; Thomasville Extension, section B, Georgia, Southern & Florida Railroad Co., \$500,000, six per cent.; Athens Gas Light Co., \$100,000, six per cent.; and Catonsville (Md.) Water Works Co., \$60,000 at five per cent.

Farmersville, Texas, has decided by a popular vote to levy a tax upon the basis of one-quarter of 1 per cent. for the erection of a \$17,000 school building.

Macon county, N. C., has decided to issue the \$100,000 of bonds, lately reported, for a railroad from Franklin, N. C., to Tallulah Falls, Ga.

Norfolk, Va.—The comptroller of the currency has declared a dividend of 5 per cent. in favor of the creditors of the Exchange National Bank.

Shreveport, La., will, it is reported, issue \$200,000 of bonds to cancel its indebtedness.

The Home Building & Loan Association, Covington, Ky., has declared a semi-annual dividend of 5 per cent.

The Kentucky Investment & Building Association, Frankfort, Ky., has declared a semi-annual dividend of 4 per cent.

The Point of Rocks Bridge Co., Point of Rocks, Md., has, it is stated, declared a dividend of 5 per cent.

Laredo, Texas.—The Rio Grande & Eagle Pass Railroad Co. has filed a resolution to issue \$600,000 of bonds to J. H. Anderson in part payment of a purchase of property.

The Savannah Cotton Mills, Savannah, Ga., will issue \$50,000 6 per cent. bonds for collateral purposes.

The Telephone Co., of Nashville, Tenn., has declared a quarterly dividend of 1 1/2 per cent.

NOTICE.

The Stock Books of THE RIVERMONT COMPANY are now closed, and all agents are hereby requested to return to this office without delay, all papers, books of subscription, and solicit no further subscriptions to the stock of this Company. A. M. DOYLE, Secretary.

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Foreign Exchange Quotations.

ALEXANDER BROWN & SONS. BALTIMORE, October 8, 1890.

Sterling.—Dall. Selling. 60 days.... 48 1/2 3 days.... 48 3/4 Commercial. 48 1/2 @ 48 3/4

Francs.—Selling. 60 days.... 52 1/2 3 days.... 51 3/4 Commercial. 52 1/2 @ 52 1/4

Reichmarks.—Selling. 60 days.... 94 3 days.... 95 3/4 Commercial. 94 3 days.... 94 3/4

Guilders.—Selling. 60 days.... 40 3/4 3 days.... 40 5/16 Commercial. 40 3/4 3 days.... 40 1/16

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore. BALTIMORE, October 8, 1890.

BID. ASKED. Virginia 3-4 5 10-40's..... 35 68

Virginia 3's, new..... 67 ..

Norfolk Water 8's C..... 130 ..

Wil., Col. & Aug..... 106 ..

Ga. Car. & N. 5's..... 102 1/2 ..

Atlanta & Char. 1st 7's..... 122 ..

Atlanta & Char. Income 6's..... 101 1/2 ..

Col. & Green. 2d 6's..... 83 85 1/2

Va. Midland, 2d 6's..... 118 ..

Va. Midland, 4th 3-4 5's..... 85 ..

Va. Midland, 5th 5's..... 101 101 1/2

Charlotte, C. & Aug. 1st 7's..... 109 110

West Va. Central 1st 6's..... 109 110

Ga. Pacific 1st 6's..... 111 1/2

Ga. Pacific 2d..... 75 75 1/2

Cape Fear & Y. Valley 6's, A..... 105 105 1/2

Cape Fear & Y. Valley 6's, C..... 103 104 1/2

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SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 25th day of October, 1890, for the erection and completion (except heating apparatus) of the U. S. Postoffice building at Sedalia, Mo., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Sedalia, Mo. Each bid must be accompanied by a certified check for \$500. The Department will reject all bids received after the time fixed for opening the same; also bids which do not comply strictly with all the requirements of this invitation. Bids must be enclosed in an envelope, sealed and marked "Proposal for the Erection and Completion (except Heating Apparatus) for the U. S. Postoffice Building at Sedalia, Mo.," and addressed to JAS. H. WINDRIM, Supervising Architect. October 4th, 1890.

SEALED PROPOSALS will be received at the Office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 21st day of October, 1890, for all the labor and materials required for the erection and completion of the main building and boiler house building for the United States Immigration Depot at Ellis Island, New York harbor, in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent of Repairs Public Buildings, New York, N. Y. Each bid must be accompanied by a certified check for \$1,000. The department will reject all bids received after the time fixed for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for Main Building and Boiler House Building for the U. S. Immigration Depot at Ellis Island, New York harbor," and addressed to JAS. H. WINDRIM, Supervising Architect. October 4th, 1890.

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WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

✎ In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

The Bodley Wagon Co., Wheeling, W. Va., intends erecting a large wagon factory as soon as a satisfactory location is secured, and is considering propositions from several towns.

The Herb Medicine Co., Weston, W. Va., contemplates changing the location of its factory.

ALABAMA.

Anniston—Iron Foundry.—R. H. Cobb has, it is reported, purchased the Murray & Stevenson foundry.

Anniston—Marble and Stone Works.—The Anniston Marble & Stone Co. is erecting the marble and stone works reported last week as being built by Jewell & Son.

Anniston—Bloomery.—The Anniston Bloomery will, it is reported, be put in operation again.

Asheville—Brick-yard.—A brick yard will be started.

Bessemer—Plumbers' Supply Factory.—A \$100,000 stock company has been organized to establish the plumbers' supply factory previously reported. The Bessemer Land & Improvement Co. can give information.

Choccolocco—Iron Furnace, etc.—An iron furnace is reported as to be built. Birmingham parties, who have made large purchases of land, are possibly the projectors.

Eufaula—Grist Mill.—A new grist mill is reported as being erected. J. S. Seper can give particulars.

Florence—Ice Factory.—The Florence Ice Co. will put in a 15-ton ice machine as previously reported; also add cold storage department.*

Florence—Land.—H. B. Quinby, of Boston, Mass.; J. H. Field, G. P. Arthur and others have organized the Florence Development Co. with a capital stock of \$500,000 to improve the Simpson tract of land previously reported.

Gadsden—Grist Mill.—Cassels, Pope & Co. are reported as having erected a grist mill.

Huntsville—Axe-handle Factory.—Iowa parties are reported as investigating with a view of establishing an axe-handle factory in Huntsville.

Jasper—Mineral and Timber Lands.—L. B. Musgrove is reported as negotiating the sale of the Carona mines and about 20,000 acres of timber and mineral land near Jasper.

Montgomery—Soap Works.—The Montgomery Soap Works has, it is stated, increased capital stock \$30,000, and will enlarge its soap works.

Opelika—Water Works.—T. S. Middleton, of Philadelphia; J. M. Sutton, B. K. Collier and others have incorporated the Opelika Water Works Co. with a capital stock of \$100,000 to construct the water works previously mentioned.

Pell City—Factory.—The Pike Manufacturing Co., of Boston, Mass., is reported as to establish a factory in Pell City.

Pell City—Cotton Factory.—New England capitalists will, it is reported, build the cotton factory previously reported. The Pell City Iron & Land Co. can give information.

Tredegar (P. O. Jacksonville)—Quarries, etc.—Sandstone and limestone quarries are to be opened and developed and lime works erected to furnish materials for the buildings of the Tredegar Steel Works. The Jacksonville Mining & Manufacturing Co. can give particulars.

Tredegar (P. O. Jacksonville)—Steel Plant.—Contracts for erecting buildings and furnishing all machinery for the Tredegar Steel Works, previously reported, have been awarded. Work will

commence at once and pushed as rapidly as possible to completion. The plant will include three furnaces, with daily capacity each of 100 tons, rolling mill, etc.

Tredegar (P. O. Jacksonville)—Brick Works, etc.—A \$100,000 stock company has been organized in Washington, D. C., to establish a plant in Tredegar to supply brick for the buildings of the Tredegar Steel Works. The Jacksonville Mining & Manufacturing Co. can give information.

Tredegar (P. O. Jacksonville)—Brick Works.—A. G. Hester, of Toledo, Ohio, and others have organized the Tredegar Brick & Tile Co. with a capital stock of \$20,000 to operate the brick works previously referred to. The erection of a building for the plant has been commenced. The present capacity will be 25,000 brick per day.

ARKANSAS.

Texarkana—Electric-light and Gas Works.—The Texarkana Gas & Electric Railway Co. has been organized and purchased the electric-light and gas works. It intends adding new dynamos to the electric plant and an 80-horse-power generator. The capital stock is \$200,000.

Texarkana—Sewerage System.—E. N. Maxwell intends organizing a company to construct a sewerage system on the franchise plan in Texarkana, Ark., and Texarkana, Texas. Franchises have been granted by both towns.

FLORIDA.

Homeland—Phosphate Mines.—B. F. Jones, of Kansas City, Mo., writes that he has contracted for sale to English parties on or before December 31 the Peace river farm of Isaac Whitaker, lately referred to. The property contains 542 acres, and will probably be developed on an extensive scale.

Jacksonville—Electric-light Plant.—F. C. Chase, of Fernandina, expects to organize in Jacksonville the sub-company of the Safety Electric Light Co., of Boston, Mass., referred to last week (under Fernandina).

Jasper—Lath, Planing and Shingle Mill.—The Muskegon Lumber Co. is adding a lath, planing and shingle mill to its saw mill.

Ocala—Ice Factory.—The Ocala Ice Co. is reported as having increased capital stock to \$50,000.

Orlando—Electric-light Plant.—An electric-light plant will probably be erected. The mayor can give information.

Orlando.—The Orlando Land & Improvement Co. has been incorporated by L. C. Massey, J. M. Wilcox, Jr., A. V. S. Lindsley and others to deal in real estate, and is privileged to establish new industries, etc. The capital stock is \$300,000.

Panasofkee—Crate Factory.—Simon J. Temple, of Temple's Mill, reported last week (under Sumpter county), has a 30 days' option on 10,000 acres of land near Panasofkee, and intends erecting a crate factory.*

South Jacksonville—Acid Factory.—The Little Bros. Fertilizer & Phosphate Co., previously reported, will, it is stated, establish an acid factory.

Tampa—Water Works.—The South Florida Railroad Co. (office, Sanford, Fla.) is reported as building water works to cost \$12,000.

GEORGIA.

Americus—Electric-light and Gas Works, etc.—S. H. Hawkins has an option on the property and franchises of the New York Contract Co., mentioned last week.

Athens—Ice Factory.—The Athens Ice Factory is reported as having put in new machinery.

Atlanta—Real Estate.—The Suburban Investment Co. has been organized with G. C. Kiser, president, and Henry Cassin, secretary, for the purpose of dealing in real estate.

Atlanta—Electric Plant.—H. M. Atkinson, J. H. Porter, John L. Hopkins and others have incorporated the Atlanta Electric Illuminating Co. to erect a plant for furnishing electricity for lighting and power purposes. It is stated that about \$250,000 will be invested in works.

Atlanta—Foundry.—The foundry of the Van Winkle Gin & Machinery Co. reported elsewhere in this issue as burned, will be rebuilt.

Atlanta—Electric-light Plant.—Boyd & Baxter are reported as having put an electric-light plant in their furniture factory.

Atlanta—Water Works.—The Howard-Harrison Iron Co., of Bessemer, Ala., has secured contract for furnishing the iron pipe for the extension of the water works previously mentioned. The price is \$22.24 per ton for the cast iron pipe and \$2.50 per hundred for specials.

Atlanta—Water Works.—The committee on new water works have decided to take the supply from the Chattahoochee river. Contracts will be awarded shortly for two 7,000,000-gallon engines for the pumping station.

Augusta—Fertilizer Factory.—It is reported that a \$200,000 stock company will be organized to erect a new fertilizer factory.

Augusta—Bridge.—Grant & Williams, 95 Peachtree street, Atlanta, Ga., will receive bids until October 20 for the construction of the steel bridge across the Savannah river, previously mentioned, for the North Augusta Land Co.

Carrollton—Foundry and Machine Shop.—Efforts are being made to organize a stock company to build a foundry and machine shop.

Cedartown—Electric-light Plant and Water Works.—The Cedartown Land & Improvement Co., recently mentioned, has purchased about 2,000 acres of land and will erect an electric-light plant and construct water works.

Cedartown—Coffin, Furniture, etc., Factory.—The Cedartown Furniture Manufacturing Co. is the name of the company formed by J. K. and F. A. Milam, J. K. Barton and others, lately mentioned. It will manufacture coffins, chairs, furniture, sash, doors and blinds, excelsior, etc.*

Dalton—Laundry.—A stock company has, it is stated, been formed to erect a steam laundry.

Demorest—Tannery, etc.—Edward Flor, of Buford, Ga., mentioned last week, will establish a tannery and a horse collar and saddle-tree factory in Demorest.

Demorest—Bath tub Factory.—Bryson & Watts, mentioned last week, have established the Demorest Bath Tub Works for the manufacture of the Goodrich folding bath tub.

Demorest—Saw-frame Factory.—McClure & Devel are erecting a two-story building 32x32 feet for their saw-frame factory. They will operate under the name of the Demorest Saw Frame Works.

Dublin—Bridge, etc.—John F. Duncan will receive bids until October 20 for constructing an iron bridge, 320x18 feet, across the Oconee river; also for building approaches, 800x18 feet, for the bridge.

Dublin—Bottling Works.—The bottling works of Hightower & Shephard, reported last week as burned, will be rebuilt.

Gainesville—Ice Factory and Laundry.—D. C. Camp, H. P. Camp, J. W. Baily and others have incorporated the Gainesville Ice Co. to manufacture ice and operate a steam laundry. The capital stock is \$10,000.

Griffin—Twine Factory.—The Farmers' Banking Co. may add machinery for manufacturing twine to its plant. W. E. H. Searcy can give information.*

Kensington—Electric light Plant.—Contract for erecting the electric-light plant referred to in last issue was, as stated, awarded to the Thomson-Houston Electric Co., of Boston, Mass. The Kensington Electric Light & Power Co. will operate the plant.

Kensington—Cotton and Woolen Mills.—The Kensington Land Co., of Chattanooga, Tenn., can give particulars in regard to the awarding of contract for the erection of the cotton and woolen mill previously reported. The main building is to be 425 feet long and three stories high.

Kingston—Lime Works.—The Standard Lime Works have been established.

Newnan—Bed-spring Factory.—McKoy & Jackson contemplate starting the manufacture of bed springs.*

Rome.—P. H. Hardin, W. N. Moore, S. S. King and others have incorporated the Etowah Land Co. to deal in real estate. The capital stock is \$15,000.

Savannah—Fertilizer Factory.—J. R. Cooper, M. W. Easton, H. C. Evans and others have incorporated the Alliance Cotton House & Joint Stock Co. for mercantile and warehouse purposes, and propose manufacturing fertilizers. The capital stock is \$5,000.

Tallapoosa.—The Georgia-Alabama Investment & Development Co., referred to last week (under Centre, Ala.), has been organized with Hon. B. F. Butler, of Boston, Mass., president; Hon. Logan H. Rounts, of Little Rock, Ark., first vice-president; Hon. James W. Hyatt, of Norwalk, Conn., treasurer, and T. E. Major, secretary. The company has secured the Tallapoosa furnace, the Mountain City Glass Works and the greater portion of the mineral and town property of the Tallapoosa Land, Mining & Manufacturing Co. It has a capital stock of \$4,500,000, and proposes enlarging the industries now owned, securing the location of others and a general development of Tallapoosa.

Thomasville—Phosphate Mines.—The Georgia Phosphate & Mining Co. has been organized, it is stated, to develop phosphate mines in Thomas county.

Washington—Oil Mill, Gin, etc.—The Excelsior Manufacturing Co., referred to last week, has increased its capital stock from \$40,000 to \$50,000.

West End—Land.—The West End Heights Land Co. has been incorporated with W. M. Scott, president; G. R. De Saussure, treasurer, and J. M. Johnson, secretary.

KENTUCKY.

Barboursville—Salt Works.—Salt works will be started by January 1. The salt is to be evaporated by natural gas. S. B. Dishman can give particulars.*

Barboursville—Furniture and Wagon Factory.—A furniture factory and a wagon factory will be established. S. B. Dishman can give particulars.*

Catlettsburg—Brick Works.—Fire-brick works will, it is stated, be established.

Grand Rivers—Electric-light Plant.—The erection of an electric-light plant has been contracted for.

Grand Rivers—Iron Furnaces.—Contracts have been awarded for the building of two 60-ton charcoal iron furnaces, as stated last week. The Grand Rivers Co. can give information.

Grand Rivers—Iron Works.—The Moore Structural Iron Works, referred to in last issue, will be established with a capital of \$150,000. The Grand Rivers Co. can give particulars.

Grayson—Land.—Hon. J. G. Blaine, of Washington, D. C.; Hon. H. G. Davis, of Piedmont, W. Va.; Hon. Stephen B. Elkins, of Elkins, W. Va., and others are reported as having secured an option on 10,000 acres of land and to make a number of improvements.

Grissom's Landing—Distillery.—R. Monarch, of Owensboro, purchased the Eagle Distillery, lately reported.

Louisville—Gas Works.—E. C. Eahen, S. Goldbach and others have, it is stated, purchased the old gas works for \$30,000 and will operate same.

Louisville—Electric Plant.—The Louisville Railway Co. has, it is stated, let contract to the Edison General Electric Co., of New York city, for the erection of an electric plant.

Middlesborough—Bridge.—Contract for the superstructure of the iron bridge on Cumberland avenue, over Yellow creek, has been awarded to the Youngstown Bridge Co., of Youngstown, Ohio, at \$11,500.

Mt. Sterling—Water Works.—Gardner & McGlasson have the contract for constructing the works of Mt. Sterling Water Works Co., referred to in last issue. A stand-pipe 120x15 feet is to be erected and the plant is not to exceed \$100,000 in cost.

LOUISIANA.

Baton Rouge—Electric-light Plant.—The Baton Rouge Electric Light & Power Co. has amended its charter, changing name to the Citizens' Electric Light Co. and reorganized with O. B. Steels, president; N. Wax, vice-president, and W. J. Knox, treasurer. It decided to duplicate the machinery to avoid break-downs.

Baton Rouge—The Baton Rouge Logging Co. has been organized with E. J. Marsh, president; H. Ringgold, secretary, and B. R. Mayer, treasurer. The capital stock is \$50,000.

Lake Charles—Rice Mill.—A rice mill with daily capacity for 600 barrels will, it is reported, be established.

Lake Charles—Electric light Plant.—M. T. Jones & Co., lately referred to, have put in an incandescent electric-light plant.

Morseley's Bluff—Gin and Grist Mill.—C. L. Gunley has put steam-power in his cotton gin and will add grist mill and other machinery.

Natchitoches—Ice Factory.—A \$6,000 stock company is reported as being organized to erect an ice factory and cold-storage warehouse.

Plaquemine—Electric-light Plant and Water Works.—The city council is considering a proposition for constructing the water works and erecting the electric-light plant previously mentioned. The mayor can give particulars.

Plattenville—Sugar Mill.—Mr. Juno has let contract for the erection of a new sugar mill to J. H. Coignet.

Slidell—Planing Mill.—Salmen Bros., referred to last week, will probably erect a planing mill.

MARYLAND.

Baltimore—Tin-plate Mill.—It is reported that a company of Baltimore and New York capitalists has been formed to build a large tin-plate mill to cost about \$5,000,000. Lewis Bros., of Pittsburgh, Pa., are said to have contract for building the plant and can give particulars if this report is true.

Baltimore—Shot Tower.—The Merchants' Shot Tower Co., previously reported as to sell its property, has transferred same to the American Shot & Lead Co.

Baltimore—Hornimill.—Bromwell & Co. are reported as putting in a hominy or corn mill.

Ellicott City—Bridge.—A bridge to cost about \$22,000 will probably be built across the Patuxent river at Orange Grove. Engineer Welty, Frederick, Md., can give particulars.

Hancock—Bridge.—P. Cahill, John Stigers, W. H. Perkins and others have incorporated the Hancock Bridge Co. to construct a bridge across the Potomac river. The capital stock is \$30,000.

NORTH CAROLINA.

Asheville—Woodworking Factory.—H. W. Fitch, B. G. Saunders, C. B. Leonard and others have incorporated the Carolina Woodworking Co., lately reported as organized.

Charlotte—Cotton Factory.—A stock company will probably be formed, principally of Northern parties, for the purpose of locating a cotton factory at the old Rock Island mill, near Charlotte. Mr. Hilton can give particulars.

Charlotte—Artesian Well.—W. N. Failing, of New York, and others will, it is stated, organize a stock company to sink an artesian well.

Elizabeth City—Ice Factory.—J. B. Flora, D. B. Bradford and J. B. Brockett have organized the Elizabeth City Crystal Ice Co. to erect an ice factory. This is possibly the same as the ice factory lately reported.

Marion—Barrel and Keg Factory, etc.—A company is reported as having been organized with W. Roberts as president, to erect a plant for the manufacture of barrels, kegs, etc.

Mount Airy—Electric light plant, etc.—H. C. Cooper and S. T. Griffith, of Bedford City, Va.; W. Duke, of Durham, and others purchased 1,000 acres of land in and around Mount Airy, as stated last week, and intend at a later date erecting an electric-light plant, mills, etc.

Mount Airy—Land, &c.—The Mount Airy Land & Improvement Co. is reported as having been organized.

New Bern—Saw and Planing Mill.—The Stinson Lumber Co. is the name of the company that will operate the saw and planing mills lately reported as having been purchased by a Northern syndicate.

Wadesboro—Cotton Mill.—The Wadesboro Cotton Mills has let contract for the erection of its cotton mill, lately mentioned, to Watson, Cecil & Craver, of Lexington, at \$12,500. The main building will be 81x180 feet.

Winston—Iron Works.—New York and Washington parties are, it is stated, negotiating with a view of establishing iron works in Winston.

Yanceyville—Saw and Grist Mill.—A saw and grist mill will probably be erected.

SOUTH CAROLINA.

Beaufort—Oyster-canning Factory.—A \$25,000 stock company has, it is reported, been organized with O. H. Foster, president, and John B. Duncan, treasurer, both of Raleigh, N. C., to establish an oyster-canning factory in Beaufort.

Bordeaux—Granite Quarry.—A stock company will probably be formed to develop a granite quarry.

Charleston—Electric-light Plant.—The Charleston Light & Motor Power Co., lately reported as to erect a new electric light plant, is said to be rebuilding its present works on a larger scale.

Charleston—Wheelbarrow Factory.—The establishment of a wheelbarrow factory is contemplated.

Sumter—Ice Factory.—The Sumter Ice Manufacturing Co., reported last week as to add a new ice machine, have contracted for the erection of one of 10 tons capacity.

Williston—Land.—W. C. Smith, J. M. Hair, W. H. Kennedy and others have incorporated the Williston Land & Improvement Co.

TENNESSEE.

Bristol—Pipe Works.—Smith & Burdette, of Cincinnati, Ohio, are reported as to establish branch pipe works in Bristol.

Cardiff—Sheet Iron and Sheet Steel Mill.—The Cardiff Rolling Mill Co. is the name of the \$200,000 stock company reported last week as organized by M. M. Duncan, H. C. Young, C. P. Moore and others to manufacture sheet iron and sheet steel. The works will include a puddle mill building 125x250 feet to contain 12 puddling furnaces, and one heating furnace with double train and squeezers, and a sheet mill building the same size to contain three trains of sheet rolls, with necessary annealing and heating furnaces. The capacity is to be 1,500 tons of sheet iron and sheet steel per annum.

Chattanooga—Fuel Gas Works.—L. A. Leonard, representing a Chicago (Ill.) syndicate, is reported as endeavoring to organize a stock company to erect works in Chattanooga for manufacturing fuel gas.

Chattanooga—Tin Plate Mill.—It is stated that the early construction of the plate mill previously reported by the Southern Iron Co. is contemplated.

Chattanooga—Artificial Stone Works.—Palmer & Dillard are reported as negotiating for a site on which to build artificial stone works.

Chattanooga—Electric Plant.—The Chattanooga Electric Street Railway Co. writes that it has purchased machinery to enlarge its plant.

Chattanooga—Barrel Factory.—The Southern Corrugated Barrel Co. has secured site and will, it is stated, soon commence the erection of a barrel factory.

Clarksville.—An English syndicate is investigating with a view of purchasing the Idaho Springs owned by P. Johnson; also the Dunbar cave property owned by Mr. Barbour.

Humboldt—Canning Factory.—J. P. S. Nelson and others have formed a stock company to erect the canning factory referred to last week.*

Jellico—Ice Factory.—An ice factory is reported as to be erected.

Johnson City—Flour Mill.—Pennsylvania parties are reported as erecting a roller flour mill in the Carnegie addition.

Johnson City—Bottling Works.—George R. Brown, lately reported, will establish bottling works.*

Knoxville—Marble Quarry, &c.—H. P. Coile is president; Hon. A. G. Scott, secretary, and W. H. Simmonds, treasurer, of the Tillery Springs Land Co., reported in last issue as chartered. It purchased the Tillery Springs tract, 3 miles from Knoxville, and including marble lands, which it intends developing.

Knoxville—Candy Factory, etc.—A six-story building is nearing completion for the candy manufacturing and coffee-roasting establishment of Hooker, Littlefield & Steere, who will add machinery to increase capacity.*

Knoxville—Wagon Factory.—J. M. Green has, it is stated, received a proposition from Staunton (Va.) parties to organize a \$150,000 stock company for the purpose of erecting a wagon factory in Knoxville.

Morristown—Wagon Factory.—A wagon factory is reported as to be erected. The Montvue Land Co. can give information.

Rockwood—Rolling Mill.—The Roane Iron Co. contemplates establishing a first-class rolling mill.*

Sequatchie—Sewing-machine Factory.—A sewing-machine factory is reported as being erected. The Sequatchie Valley Coal & Iron Co. can give information.

TEXAS.

Aledo—Bed-spring Factory.—A company has, it is stated, been organized by E. D. Farmer, L. R. Fawks and others to erect a bed-spring factory.

Beaumont—Brick and Tile Factory.—P. H. Higgins, J. G. W. Carroll and J. H. Gilbert have incorporated the Higgins Manufacturing Co. with a capital stock of \$50,000 to erect the brick and tile factory lately mentioned.

Cisco—Water Works.—T. B. Wheeler, B. W. Rose and O. T. Maxwell have incorporated the Cisco Water Co. with a capital stock of \$50,000 to construct the water works previously mentioned.

Gordon—Stone-sawing Mill.—The Fort Worth Loan & Construction Co., of Fort Worth, mentioned last week, is erecting a stone-sawing mill at its quarries near Gordon.

Dallas—Bridge.—The George E. King Co. has received contract for building two bridges across Turtle creek at \$8,448.

Dallas—Cotton Mill.—The cotton mill previously mentioned will, it is stated, be erected by New England parties and others at a cost of \$300,000. O. P. Bowser can give information.

Gainesville—Water Works.—The Gainesville Water Co. is reported as to extend its water works.

Galveston—Car Shops.—The National Railway & Street Rolling Stock Co., of Boston, Mass., will, it is stated, build car shops, provided the citizens of Galveston subscribe for \$100,000 of the stock in a \$500,000 company.

Galveston—Bindery, &c.—Clarke & Courts, mentioned last week, are completing a five-story building for book-binding, printing, lithographing, engraving, &c. All machinery has been purchased.

Greenville—Electric-light Plant.—The city council has passed an ordinance to erect the electric-light plant recently mentioned. It is to furnish both arc and incandescent lights. R. L. Porter, mayor, can give information.*

Hallettsville—Laundry.—The erection of a steam laundry is talked of.

Houston—New Town.—A new town to be known as South Houston will probably be laid off. S. Taliaferro can give information.

Laredo—Water Works and Electric-light Plant.—J. S. Taylor, previously reported as to improve 15,000 acres of land and probably erect an electric-light plant and construct water works, has with others chartered the North Laredo Land, Immigration & Water Co. The capital stock is \$1,000,000.

Luling—Brick-yard.—A new brick-yard will, it is stated, be established.

New Birmingham—Tannery, &c.—Parties are investigating with a view of establishing a tannery, agricultural implement factory and another wagon factory. The New Birmingham Iron & Land Co. can give information.

New Birmingham—Rolling Mill.—Arrangements are reported as having been made for the establishment of a rolling mill between Rusk and New Birmingham. The New Birmingham Iron & Land Co. can give information.

Roby—Grist Mill and Gin.—A grist mill and cotton gin is reported as to be erected.

Sabinal—Abattoir and Refrigerator.—Lex & Robinson are, it is stated, erecting an abattoir and refrigerating plant.

San Antonio—Land.—The Waters Real Estate Improvement Co., of Omaha, Neb., is the name of the company lately reported as having purchased 900 acres of land for \$100,000. The property is to be improved.

Seneca—Saw Mill.—R. W. Snelling & Co. will rebuild their saw mill reported in last issue as burned.*

Seymour—Water Works.—Morgan Jones will submit a proposition to the city for constructing a system of water works.

Seymour—Implement Factory.—A \$100,000 stock company is reported as having been organized to erect an implement factory.

Summit—Lumber Mill.—The Summit Lumber Co., lately reported as incorporated, succeeds D. J. Williams & Co. and may enlarge its lumber mill.*

Temple—Cigar Factory.—Messrs. Reuke, of Michigan, are investigating with a view of establishing a cigar factory.

Tom Green County—Land.—Gist Blair, of St. Louis, Mo., purchased, as stated last week, nearly 1,000,000 acres of land in Southwest Texas. The property consists of farming, grazing and mineral lands, and was bought for a syndicate of New York and St. Louis parties.

Waco—Artesian Well.—Thomas Padgett has awarded a contract for sinking an artesian well.

Waxahachie—Electric-light Plant.—The Waxahachie Electric Light Co. is reported as having increased capital stock to \$18,000, and to put in new machinery to enlarge its plant.

VIRGINIA.

Big Stone Gap—Coke Ovens.—The Virginia Coal & Iron Co., previously reported as to build 300 coke ovens, will soon commence work on same.

Buena Vista—Portable House Factory.—The organization of a stock company for the purpose of manufacturing portable houses according to the patent of T. V. Carskadon, of Keyser, W. Va., is under consideration.

Clifton Forge—Planing Mill.—A. J. Acord is reported as erecting a planing mill.

Clifton Forge—Brick Works.—F. A. Grove & Co. have, it is stated, secured site and will erect brick works.

Eagle Rock—Water Works, Electric-light Plant, &c.—G. K. Anderson, J. H. Carlisle, Henry Taylor and others have purchased land from J. G. Whitten, T. N. Pettigrew, C. T. Price and the Pettigrew Land Co., previously mentioned, and incorporated the Craig Valley Co. with the privilege to deal in real estate, construct water works, erect electric-light plants, &c. The capital stock is to be not less than \$50,000 nor more than \$250,000.

Glasgow—Pulley and Belt Factory.—A pulley and belt factory will, it is reported, be erected by the Fee & Fowler Belt, Pulley Rest & Mill Co. The Rockbridge Co. can give information.

Glasgow—New Industries.—It is reported that the following firms of Cincinnati, Ohio, will locate factories in Glasgow: The Marqua Co., manufacturers of children's carriages, toys, etc.; Queen City Top Co., buggy tops, cushions, etc.; Danziger, Reiner & Straut, mantels, and the Alpine Safe Co., safes. The aggregate capital to be invested is over \$250,000.

Gordonsville—Shuttle block Factory.—The shuttle-block factory reported last week will be established with O. F. Morton, manager.

Goshen—Lumber Mill.—A lumber mill with a capacity of 100 M feet of lumber per day is reported as to be moved from Pennsylvania to Goshen. The Goshen Land & Improvement Co. can give information.

Howardsville—New Town.—The Virginia Steel, Iron & Slate Co., has been organized with F. T. Anderson, of Richmond, president; H. W. Flournoy, vice-president, and J. G. Hawkins, secretary. The company has secured 4,000 acres of land surrounding and including Howardsville; also from 10,000 to 20,000 acres of mineral lands, and will build the new town of Logan City, mentioned last week. The capital stock is \$2,000,000.

Irish Creek—New Town.—The Irish Creek Mineral & Development Co., reported last week, will build a new town to be known as Cornwall.

Ivanhoe—Planing Mill.—Philadelphia parties will, it is reported, erect the planing mill previously mentioned. The Ivanhoe Land & Improvement Co. can give information.

Ivanhoe—Stove Works, etc.—Negotiations are reported as having been closed for the establishment of stove works and foundry and machine shops. The Ivanhoe Land & Improvement Co. can give particulars.

Liberty Furnace (P. O. Columbia Furnace).—Iron Furnace.—The 50-ton charcoal furnace now being built by the Liberty Iron Co., as stated last week, is to be 55x11 feet.

New Castle—Electric-light Plant.—J. M. B. Cripps contemplates erecting a dynamo to furnish incandescent lights.*

New Castle—Woodworking Factory.—S. Faus, lately mentioned, is erecting a woodworking factory.

North Danville—Land.—A party of capitalists have, it is stated, purchased 75 acres of land and organized a \$100,000 stock company.

Parham's Store—Saw Mill and Gin.—J. M. Tynn will erect a saw mill and cotton gin and other machinery.*

Richmond—Cigarette Machine.—The Universal Long Filler Cigarette Machine Co. has been organized for the purpose of placing a patent cigarette machine on the market.

Richmond.—The Bristol Investment Co. has been incorporated with M. W. Eastman, president; E. A. Tetlow, secretary, and F. S. Hall, treasurer. The capital stock is to be not less than \$5,000 nor more than \$10,000.

Richmond.—The Co-operative Investment Association is reported as having increased its capital stock to \$100,000.

Roanoke—Engine Works.—It is understood that a \$50,000 stock company will be formed to remove to Roanoke and operate the plant of the Duval Engine Co., of Zanesville, O., mentioned last week.

Roanoke—Bridge Approaches.—The city council has rescinded the contract of E. McConnell for the construction of the approaches to bridges over Randolph, Henry and Park streets, reported last issue.

Roanoke—Tannery.—The secretary of the Commercial Club is in correspondence with a party who is considering the location of a tannery in Roanoke.

Roanoke—Stone Quarry.—The Virginia Green Stone Building Co. will, it is reported, be organized for the purpose of developing a stone quarry. The secretary of the Commercial Club can give information.

Roanoke—Generator Factory.—The Monitor Steam Generator Manufacturing Co. has been incorporated with H. M. Engle, president; George McBain, vice-president, and H. C. Musser, secretary, to manufacture the Monitor steam generator. The capital stock is \$250,000.

Roanoke—Land.—The Columbia Land Co. has been incorporated with J. H. Bartlett, president; H. C. Musser, vice-president, and S. D. Ferguson, treasurer. The capital stock is \$250,000.

Savernake (P. O. at Triford)—New Industries.—The following industries will, it is stated, be established: Tin-plate works with capacity for 3,500 boxes IC tin plate weekly, ferro-manganese furnace, 80-ton iron furnace, ornamental brick and tile works, slate brick works, manganese grinding works, cement kilns and mill planing mill and woodworking mill, iron foundry and machine shop, coke plant and open-hearth steel plant with plate and galvanizing mill, and negotiations are pending for iron bridge works, lock factory, hardware factory and malleable iron works. The Loch Laird Estate & Mineral Co., (Limited) can give information.

Stanley—Wood-pulp Factory.—The wood pulp factory mentioned last week will be built. The Stanley Furnace & Land Co. can give particulars.

Staunton—Fertilizer Factory.—A. B. Lightner and others are reported as having purchased the old Burke & Bradley distillery, and to remodel for the manufacture of fertilizers.

Vinton—Iron, Ochre and Silver Mines.—R. G. Pace, of Salem, and E. Stoddard will organize a stock company, as stated last week, to develop ochre, silver and iron on Mr. Stoddard's property of 400 acres.

Williamsburg—Canning and Peanut-cleaning Factory.—Leonard Henley, Jr., and others are making efforts to organize the Williamsburg Peanut Cleaning & Canning Co. to erect the peanut-cleaning and canning factory mentioned last week. The capital stock is to be \$50,000.

Winchester—Cigar Factory.—Frazier & Staples will start a cigar factory.

Wytheville—Stove Works.—The Ironton Stove Co., of Ironton, Ohio, is said to be the name of the company reported in last issue as to remove stove works to Wytheville.

WEST VIRGINIA.

Bluefield—Woodworking Factory.—W. S. Fouts contemplates erecting woodworking machinery.*

Cameron—Oil and Gas Wells.—The Cameron Oil & Gas Co. has been incorporated with a capital stock of \$11,500.

Charleston.—The West Charleston Co. mentioned in last issue as having purchased 130 acres of land near Charleston, has been incorporated by E. B. Knight, L. Prichard, J. M. Payne and others with a capital stock of \$54,000.

Charleston—Pipe Line and Oil Refinery.—It is reported that R. H. Herron and the Augusta Oil Co., of Pittsburgh, have secured large tracts of oil lands in Kanawha county through William S. Edwards, of Charleston, and will construct a pipe line to Charleston and build an oil refinery if developments warrant so doing.

Charleston—Iron Mines, &c.—W. A. and L. A. Wilson, George O., J. E. and W. E. Chilton have incorporated the Blue Ridge Manganese Co. to develop iron ore, manganese and other minerals.

Charleston—Oil Wells.—G. O. Chilton, C. W. Young, T. C. Hall and others have incorporated the National Oil Co. with a capital stock of \$9,000.

Charleston—Oil Wells.—Porter & Ward will sink oil wells.

Elkhorn—Coal Mines and Coke Ovens.—N. Fitzhugh, C. P. Latham and others have incorporated the Forest Coal Co. to develop coal mines, manufacture coke, etc. The capital stock is \$60,000.

Elkhorn—Coal Mines and Coke Ovens.—The Hill City Coal & Coke Co. has been incorporated with a capital stock of \$60,000.

French Creek—Oil Well.—T. W. Larson has, it is stated, organized a company to develop 400 acres of oil land.

Huntington—Saw and Planing Mill.—The Paragon Saw & Planing Mill Co. is reported as having put new machinery in its saw and planing mill.

Kingwood—Electric-light Plant.—C. V. Bishop is making efforts to secure the erection of the electric-light plant mentioned last week.

Martinsburg—Machine Shops, &c.—The Baltimore & Ohio Railroad Co. (office, Baltimore, Md.) will, it is stated, enlarge its machine shops, and, it is rumored, contemplates the building of passenger car works.

Morgantown—Elevator and Mill.—The Victor Mills Co., lately referred to, will build a 30,000-bushel grain elevator and probably remodel its mill to a complete roller corn mill.

Petroleum—Oil Well.—Showalter & Caldwell are sinking an oil well on Short run.

St. Mary's—Oil Well.—B. F. Staniford is reported as having leased 50 acres of land to a Parkersburg party who will sink an oil well.

St. Mary's—Oil Wells.—Samuel Stewart, of Parkersburg, has, it is stated, purchased 200 acres of the Gallaher estate and will sink oil wells.

St. Mary's.—The McKirwin Creek Boom & Lumber Co. has been incorporated.

Volcano—Oil Wells.—W. C. Stiles will sink oil wells on the Power lease, R. M. Gatton is sinking a well on Lick run and Wyatt & Fischer on Lick fork.

Wheeling—Refrigerator Factory.—W. J. W. Cowden will, it is reported, organize a stock company to manufacture refrigerators according to the patents of the Universal Refrigerating Co.

Wheeling—Oil and Gas Wells.—The Gasmire Oil & Gas Co., lately reported as organized, has been incorporated with a capital stock of \$22,000.

White Sulphur Springs—Mining, &c.—W. W. Hamilton, John Donovan and others, of Clifton Forge, Va.; J. D. Prescott, of Boston, and others have incorporated the Rich Patch Iron Mining Co. to develop mineral and timber land and with authority to build iron furnaces, etc. The capital stock is \$500,000.

Building Notes.

Aiken, S. C.—A company will probably be formed for the purpose of erecting a city hall and opera-house building to cost about \$7,000.

Arcadia, Fla.—It is reported that contract will be let shortly for the erection of a new edifice for the First Baptist Church.

Arkansas City, Ark.—Hotel.—The Kentucky & Arkansas Land & Industrial Co., lately referred to, is erecting a 35-room hotel.

Athens, Tenn.—A gymnasium building will probably be erected at the State University.

Atlanta, Ga.—Hon. Frank P. Rice is building a \$15,000 residence; W. A. Bates, of Griffin, one to cost \$10,000; John L. Hopkins and Charles Hopkins each a residence.

Atlanta, Ga.—W. W. Goodrich is preparing plans for the erection of a four-story business block for J. L. Dickey to cost \$15,000.

Baltimore, Md.—The Grand Lodge of Maryland, Independent Order of Odd Fellows, have selected site and will erect a \$100,000 building.

Baltimore, Md.—The New Baltimore & Ohio Land & Improvement Co., 110 E. Lexington street, has, it is stated, awarded contracts for the erection of 21 buildings and a casino building, and will receive proposals until October 15 for the erection of a store and 10 cottages at Lorely City.

Basic City, Va.—J. K. K. Kerr, of Riverside; M. D. Miller, of Bridgewater; W. T. Moore, of Crowder, and R. W. Crowder will erect residences.

Basic City, Va.—The Chesapeake & Ohio Railroad Co. (office, Richmond) will, it is reported, erect a passenger and freight depot.

Basic City, Va.—A branch of the Iron Belt Building & Loan Association has been organized with J. E. Sanger, president, and R. W. Crowder, secretary and treasurer.

Basic City, Va.—E. H. Gohl, of Harrisburg, Pa., is erecting a three story brick business house to cost \$10,000.

Basic City.—The Basic City Car Co. will, it is reported, erect \$10,000 worth of cottages for its employes.

Basic City, Va.—J. M. Quarles will build a residence.

Bessemer, Ala.—The Methodists will erect a new church to cost \$118,000.

Buena Vista, Va.—It is reported that Wingfield & Ware have secured contract for the erection of 12 new houses for the operatives of the Buena Vista Iron Co., and A. K. Rarig will erect 50 houses for the operatives of the boiler and machine works.

Burlington, N. C.—The Burlington Coffin Co. will build a two-story brick warehouse 110x40 feet, in place of the one reported last week as burned.

Centreville, Md.—The Methodist Protestants will build a new church at Ruthsburg.

Charleston, W. Va.—H. L. Rowe, of Lexington, Ky., has prepared plans for the erection of a three story building to be 65x61 feet, for opera-house and store purposes.

Charlestown, W. Va.—A branch of the Southern Building & Loan Association has been organized with J. G. Hurst, president; C. H. Trail, secretary, and E. B. Chambers, treasurer.

Chattanooga, Tenn.—Post No. 2, Grand Army Republic, contemplates erecting a two-story memorial hall.

Clifton Forge, Va.—An opera-house to cost \$15,000 will probably be built. The Clifton Forge Co. can give particulars.

Colorado, Texas.—Martin, Byrne & Johnson have secured contract at \$75,000 for the erection of the Colorado Club building. It is to be 4x280 feet and two stories high.

Columbia, S. C.—A three story building is to be erected for the Young Men's Christian Association.

Dallas, Texas.—The depot previously reported as to be erected by the Gulf, Colorado & Santa Fe Railway Co. (office, Galveston) will, it is stated, cost about \$90,000.

Dallas, Texas.—J. E. Boyer has, it is stated, secured contract at \$38,995 for the erection of a two-story school building.

Denison, Texas.—The National Bank of Denison contemplates, it is stated, erecting a banking house.

El Paso, Texas.—W. B. Brack, president school trustees, will receive proposals until October 18 for the erection of a new school building.

Ennis, Texas.—The Houston & Texas Central Railroad Co. (office, Houston) will, it is reported, build a roundhouse.

Farmersville, Texas.—A \$17,000 schoolhouse will be erected.

Florence, Ala.—The Florence Cotton & Iron Co. will probably soon let contract for the erection of a building for the use of its officers to cost about \$5,000.

Fort Payne, Ala.—The Frambes Lumber Co. has secured contract for completing the new passenger depot of the Alabama Great Southern Railroad Co. (office, Birmingham), previously mentioned.

Fort Payne, Ala.—The Boston Block Co. has been organized with a capital stock of \$20,000, and will erect a three-story brick block.

Fort Worth, Texas.—W. A. Adams is reported as having let contract for five residences.

Frankfort, Ky.—A branch of the Atlanta National Building & Loan Association has been organized with E. E. Hume, president, and J. W. Milan, secretary and treasurer.

Glasgow, Va.—White & Lee, of Lexington, are reported as to erect a brick building.

Grayson, Ky.—Hotel.—It is stated that a hotel will be erected by the purchasers of the 10,000 acres of land reported elsewhere in this issue.

Greenville, Miss.—C. M. Johnson will receive proposals until October 27 for furnishing all material and building a courthouse and jail. McDonald Bros., of Louisville, Ky., prepared the plans.

Iron City, Tenn.—A board of education will probably be organized for the purpose of erecting a school building.

Lexington, Ky.—A branch of the Atlanta National Building & Loan Association will probably be organized.

Louisville, Ky.—The erection of a new hospital is talked of.

Luttrell, Tenn.—M. E. Parmelee, of Knoxville, has prepared plans for the erection of a church for the Baptists 32x50 feet. It is to have hot water heating, ventilating apparatus, etc.

Lynchburg, Va.—Mr. Tinsley will prepare plans for the erection of a block of five-story buildings on Main street.

Lynchburg, Va.—A college for colored pupils is reported as to be erected at a cost of \$57,000.

Macon, Ga.—It is intended to build the hospital

lately reported at a cost of \$50,000. Hon. S. B. Price can give information.

Mansfield, Texas.—The Baptists will, it is stated, erect a new church.

Martinsburg, W. Va.—A new jail will probably be erected. Dr. J. W. McSherry can give information.

Memphis, Tenn.—Efforts are being made to induce the New York Equitable Life Assurance Society, of New York city, to erect a block of buildings.

New Orleans, La.—The Grand Lodge F. and A. M. contemplates erecting a new Masonic temple.

Newport, Ky.—The congregation of St. John's Protestant Church is erecting a new edifice at a cost of \$6,500.

Parkersburg, W. Va.—The erection of a new building for the Young Men's Christian Association to cost \$25,000 is contemplated.

Reidsville, N. C.—Lindsay & Reid will build a block of brick stores on West Market street.

Roanoke, Va.—The Fidelity Investment Co. will, it is reported, erect a three-story brick building to cost \$15,000.

Roanoke, Va.—W. P. Huff has let contract for the erection of a residence.

Roanoke, Va.—The Terry Building Co. is reported as to erect a seven-story brick building.

San Saba, Texas.—The San Saba Building & Loan Association has been organized with a capital stock of \$30,000.

Shelbyville, Tenn.—The Nashville, Chattanooga & St. Louis Railway Co. (office, Nashville) will, it is stated, erect a passenger depot.

Shendun, Va.—F. L. Beller has secured contract for the erection of an office building for B. B. Bouldin.

Stanley, Va.—The Shenandoah Valley Railroad Co. (office, Roanoke) will, it is stated, erect a new passenger depot 2½ stories high at a cost of \$10,000.

Sweetwater, Tenn.—The Methodists contemplates building a \$10,000 edifice.

Waco, Texas.—A company has been formed for the purpose of erecting a new opera-house and a natatorium at a total cost of \$75,000.

Waco, Texas.—Thomas Padgett is reported as to erect a natatorium building to cost about \$30,000.

Waco, Texas.—B. Moore, T. Jones, W. W. Seley and L. Newburg are reported as to erect an opera-house to cost \$100,000.

Warrenton, Va.—Hotel. A \$50,000 hotel is reported as to be erected. The Warrenton Land & Improvement Co. can give information.

Washington, D. C.—Site has been purchased on which a new building will be erected for the Government Printing Office.

Washington, D. C.—A. Lisner will erect a \$200,000 building, as stated last week. It is to have all modern improvements.

Washington, D. C.—W. Nailor will erect two three-story brick dwellings to cost \$12,000; John Henderson & Son, four two-story dwellings to cost \$10,000, and John E. Hawley, a four-story store and office building, 23x115 feet, to cost \$15,000, and have steam heating and elevators. Plans have been prepared by Harvey L. Page for the erection of a four-story dwelling, 41x79 feet, for F. C. Stevens to cost \$15,000—hot water heating and electric bells will be used; by W. B. Gray for three three-story dwellings, 26x25½ feet, for J. F. Bradley to cost \$11,000; by N. T. Haller for four three-story dwellings, 18x32 feet, for F. E. Johnson to cost \$21,000, and by J. C. Johnson for a three-story dwelling, 82x75 feet, for R. W. Conway to cost \$30,000, and to have electric bells and steam heating.

Washington, Ga.—Hotel.—A new hotel is talked of.

Wichita Falls, Texas.—The Board of Trade will probably soon let contract for the erection of the new building previously mentioned.

Wichita Falls, Texas.—Kean & Horn are erecting a two story brick block.

BURNED.

Atlanta, Ga.—The foundry of the Van Winkle Gin & Machinery Co. will be rebuilt.

Coviscana, Texas.—The gas works damaged by an explosion.

Fairmont, W. Va.—The woodworking factory of W. A. Clayton & Co.

Jackson, Tenn.—The Irvin mill, owned by D. M. Irvin.

Lewisburg, Ky.—The ice factory and brewery of John Seiler; estimated loss \$46,000.

Milton, Ky.—Levy & Bros.' distillery warehouse; loss about \$100,000.

Reidsville, N. C.—The grist mill and box factory of J. H. Walker; estimated loss \$45,000.

San Diego, Texas.—The Parkman cotton gin; estimated loss \$10,000.

Waco, Texas.—The cotton gin of Dulock Bros., near West Station.

Mr. Hewitt's Statements as to the Abundance of Southern Iron Ores.

The MANUFACTURERS' RECORD invites attention to the following statements made by Hon. Abram S. Hewitt, probably the highest authority in the United States according to the views of English iron-makers, in his speech before the Iron and Steel Institute of Great Britain. Mr. Hewitt, referring to the enormous amount of iron that would be required within ten years, said:

The South is practically a virgin country, in which the production of ore is in its infancy; but the development is already phenomenal, and even if the other regions ceased producing ore, the Southern States could readily supply the deficiency. * * The ores of Tennessee and Alabama extend in an unbroken vein for hundreds of miles along the flanks of the great Appalachian coal field.

Referring to steel-making, he said:

It will doubtless excite surprise in the minds of our visitors to find that the basic process has made no progress in this country. The delay has been due partly to the recent development of the Southern ores, and partly to the illiberal spirit in which the basic patents have been managed. But it will not longer be possible to arrest the manifold destiny of the South, which is now erecting a large number of furnaces, the product of which must find a market through the basic process.

Two weeks ago we published a statement from Mr. Hewitt in which he said:

In Carolina there are vast bodies of magnetites, and if not very near to the coal at present, railways are in course of construction which will bring them within 60 miles of the best coal in the world. I have made a calculation, and believe that coal and iron can be brought together to make pig iron for Bessemer steel at not exceeding \$10 a ton.

Another Great Development Company in Virginia.

The most important enterprise ever projected at Roanoke is probably the Roanoke Development Co. This company is now being organized by leading stockholders of the Norfolk & Western Railroad and others, including such men as Clarence M. Clark, J. H. Dingee, James S. Simmons and Dr. J. H. Gale. It has secured 1,300 acres of land adjoining Roanoke for about \$520,000, and as its stock is \$1,100,000, it will have over \$500,000 in cash for immediate active work. The demand for the stock was so great that \$180,000 was subscribed in Baltimore in a couple of days, and the Philadelphia officers had to telegraph their agent to stop taking subscriptions in this city. This company will push the development of Roanoke more vigorously than has ever been done before, and will undoubtedly largely contribute to making good the prediction of President Kimball, of the Norfolk & Western Railroad, published last week, that enough new industries would be established there to double the population of the town.

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Price \$4.00 a year, or six months for \$2.00.

SHENDUN.

A Ride, Not With Sheridan, But in the Great Valley, Rich in Historic Associations, Abounding in Wealth and Beautiful in All Things.

SHENDUN, VA., Sept. 30, 1890.

Editor *Manufacturers' Record*:

Here I am, where my heart has longed to be, in the great Valley of Virginia, rich in glorious association, abounding in wealth and beautiful in all things, and under circumstances most fortunate in all their connections. The valley alone is a charming delight. To the eye of the lover of nature it is a never-ending joy, one scene of beauty breaking from another in endless variety, and leading up from beauty to beauty as the mountains rise far away to fade in the autumn skies beyond. To the eye of the historian this is a grander section still. Here Stonewall Jackson entertained "the boys in blue" with a game of "hide-and-go-seek" that has become immortal in history and carried pride and love to the heart of every true Southerner.

Here it was that Washington Irving came in the summer of 1853 to drink the inspiration that resulted in the most appreciative and the most patriotic of all the biographies of the Father of his Country. Here it was that he coined that beautiful euphemism, "The waters of Virginia are bright and abounding."

This magnificent new city is located in the very heart of all this beauty, all this historic poetry, and, so far as the future of this great people is concerned, more important still, in the very center of all this abundant material wealth. A ride, therefore, over this country with Major Jed Hotchkiss, the honored chief of the engineering corps of the valley army of 1862-3-4-5, is an event never to be forgotten.

Such was my pleasure—yea, my delight—this morning. The gallant Major, who was a brave soldier, an able counsellor, a vigilant officer and a devoted friend of the deathless hero, Stonewall Jackson, is a geologist second to none in the South and a topographical engineer of rare skill and wonderful prescience. This is the origin of Shendun. Thirty years of exact knowledge of all the topography of the Valley of Virginia, with the eye of a prophet and the skill of a scientist, he has gone about preaching the munificent wealth and the glorious material future of his beloved State. This is the center of all his prophecy and the materialization of all his dreams of development. Here he pitched his tent, and here he has begun the upbuilding of a city magnificent in all its proportions, well fortified in all its ambitions, and abundantly sustained in all its material promises.

Our ride this morning was a glorious revelation. With the magnificent Massanutten to the front, the glorious Blue Ridge to our right and grand old North mountain to the left, we dashed away down the valley to the north behind two noble boys with the gallant old Major and Tom Grasty in front, the brilliant Forum man, William E. Christian, and our delightful friend, Hanson H. Haines, of Maryland, in the middle, and ye correspondent with charming Mrs. Haines in the rear. The crisp morning air gave new life to the dashing team and added refreshing vigor to the marvelous conversational powers of our gifted chaperon. Avenue after avenue was passed, and street after street was threaded for miles away over an area of territory as beautiful as that of Washington city. Plant locations were explained; furnaces, rolling mills, brick-yards, lumber and planing mills were touched upon, with here and there a war incident of touching pathos or of humorous vein, many of them

never given to history, yet, like the legends of immortal Scotland, destined to live through the beautiful reminiscences of the vivacious story-teller.

This over, a turn to the west and a dash of a mile brought us to the banks of the "bright and abounding waters" of South river, the south branch of the beautiful Shenandoah, beyond which are the ample grounds of the company devoted to the building of the great industrial school to be located here, another of the great material dreams of the beneficent founder of Shendun. A beautiful plateau of 100 acres, as level as a floor, has there been devoted to that purpose, and a great building will be erected to accommodate the aspiring youth of the land. There is but one school of this kind in America. That is located in Boston, and is doing great service to the youth of that city in obtaining an accurate knowledge of the mechanic arts essential to the material development of the country. Major Hotchkiss is a philanthropist, and a philosopher as well, and as such has made a study of the wants of the rising generations, that they may be furnished and equipped for the future great moral, as well as physical, wants of the people.

Leaving this beautiful spot of ground to the right and turning our course up the left bank of South river, we began the ascent of Grotto mountain, a spur of North mountain, jutting into the valley to the north. The ascent of this beautiful peak, up which the Shendun street railway will in 60 days be running, was made by easy stages to its top, 1,400 feet above the level of the sea, and 400 feet above the level of the plain below. Here a magnificent view is obtained. With old Massanutten standing to the left in the same solemn grandeur that marked his silence in May, 1862, when Stonewall Jackson made use of his august presence at once as a signal station and as a buttress to his plans, with Brown's gap, now called Shendun pass, to the front, one of those wonderful rents in the grand mountain ranges, made for the use of man and the passage of great railway systems, with the Blue Ridge stretching far off to the right, made gorgeous in its grandeur by the ever-changing sunlight on shifting clouds, and with a valley below of 20,000 acres, made as if to aid the feeble sight of man in the location of great cities, it is a magnificent sight to behold. From this point Major Hotchkiss explained his plans for the future. "Looking across the valley in a direct line with Shendun pass," said he, "is the Shendun Hotel, where you stopped. That was built merely for temporary purposes, and, though ample and comfortable within, will in the near future be devoted solely to railroad purposes. Just to our right, on the top of this mountain, will be our grand hotel, a model in architectural design and structural solidarity. I shall not tell you how much it is to cost, but it will not be surpassed in beauty, comfort or convenience by any hotel in the South. This must be the great health resort of the future, and we have the money and the mind to prepare for it as such. This magnificent view, this delightful pine forest all about us, the glorious atmosphere of these mountains, the health-giving waters, all conspire to make this the very Mecca of health-seekers as well as of those who desire to find pleasure in the haunts of nature. Then look below. All on this side of South river, at the foot of this mountain, is the true limestone formation, where Kentucky got her bluegrass and we have gotten the bone and sinew of our people. On the other side is sandstone. From the sides of that mountain across there we will get our building stone, beautiful in quality and so easily accessible that it will form an abundant storehouse for the cheapest and best of all building material, to be transported from the quarry to the city by gravitation

alone. Off to the left of the line to the hotel our great foundries, factories, mills and machinery halls will be mainly located. There is where the lots of our drawing of October 14th are located. You will discover that the avenues all run parallel with the railroad and the streets transverse. The city is not laid out by the points of the compass. I am too old an engineer for that. I want the sun to shine on all sides of my house every day, if possible. This plan insures three sides, and a chance. Down there we have 2,000 building lots, and many more to follow. There are over 1,000 acres in that part of the city alone. That beautiful stretch of land you see between the river at the foot of the mountain and the rise where the wind-mill stands, half-way to the hotel, and containing nearly 300 acres, has been devoted to a park. Beyond the railroad that beautiful sweep of timber, almost as level as a floor, falling from the foot of the Blue Ridge at about 50 feet to the mile, containing 3,000 acres, will be devoted to villa sites; this to the right to residences, thus keeping forever separate the residential portions and the manufacturing portions of the city. All the top of this mountain, Grotto mountain, where we stand, on the very site of our great hotel, will be devoted to a magnificent park, now in the hands of engineers for the location of walks, drives and retreats."

"But, Major," queried irrepressible Tom Grasty, "what about your coal, your iron, your clays and your manganese?"

"Bless your life, boy, we have it all in abundance. Just over there at Shendun Gap we have the finest quality of iron ore.

The Mount Vernon Iron Works property, embracing about 25,000 acres of mountain and valley land extending for ten miles along the Blue Ridge mainly in Rockingham county, with an average breadth of four miles from the crest of that mountain chain down its westward slope into the border of the Shenandoah valley and to the vicinity of the Shenandoah Valley Railroad, as shown on the map, is ours.

The great iron ore ranges of the Blue Ridge—the same ones that are sources of supply for the Shenandoah, the Buena Vista, the Glenwood, the Crozier and other blast furnaces all along the eastern border of the great valley—extend for nine miles through this property, as indicated on the map, on which are also nine opened mines, some of them recently developed, others those that for 30 years supplied Mount Vernon furnace with the ores from which the Millers and Lewises of this region and the Abbot Iron Co. and the Wyeths, of Baltimore, made a brand of charcoal pig iron that ranked with the best made in the United States.

These iron ores are in several stratified beds among the shales and slates of Rogers' Formation No. 1 (the Potsdam of New York).

Analyses made by McCreath, of Pennsylvania, of samples of these ores gave from 43.700 to 46.200 per cent. of metallic iron, 0.124 to 0.242 of phosphorus. Those made by the analysts of the U. S. Census of 1880 (see Vol. XV, 1880 Census Reports) from samples collected by its special agents gave from 41.15 to 51.65 per cent. of metallic iron, and from 0.103 to 0.274 of phosphorus. These ores carry only some ten per cent. of silica. There are two grades of them. The lower grade is a red kidney ore found in a separate stratum. The larger proportion, the higher grade, is a rich limonite that, properly sorted, can be relied on for 50 per cent. of metallic iron.

Magnificent iron ores of excellent quality are now mined and shipped to Pittsburgh from adjacent lands. The same ores abound on this property.

A manganese mine has been opened on this property, and a considerable quantity

of excellent lamp ore mined at moderate expense. The results of explorations are favorable for finding a large body of manganese at this point, where the conditions are excellent for cheap mining. This is in the same range as the famous Crimora mine, which is but a few miles distant to the southwest, and good reasons prevail for believing that this deposit may prove of very great value.

Fire-clays suitable for making fire-brick, kaolin for earthenwares, quartzites for glass sand and sandstones for building purposes are abundant on this property.

Timber, some of original growth, but most of it of a second growth, suitable for bent wood, agricultural implements, wagon making and other purposes, covers the larger portion of this estate and adds greatly to its value. Large quantities of charcoal could be made here, saving the valuable by-products in the process of carbonizing, and using the charcoal in the local manufacture of ferro-manganese, pig iron, etc.

As to coal, we have Flat Top mountain almost in sight, where the greatest deposit of iron-making coal in the South is at hand. Ah, sir, we have no lack of material resources."

THE MARVELOUS CAVES.

Just beneath where we then stood, on the spot where an elegant observatory nearly 100 feet high is being erected, are the Weyer and Fountain caves, the greatest wonders of the section. These caves we shall reserve for a future letter. Suffice it to say that a day spent in them is a day of delight, with ever increasing beauties and wonders breaking upon the view.

JNO. O. HODGES.

THE TOWN OF CORNWALL.

Rockbridge to Have a New Industrial Town Along the Blue Ridge.

Our county is to have a fourth new industrial town. It is to bear the name of Cornwall, and its location is to be next to the Blue Ridge, at the mouth of Irish creek and on the waters of South river.

On Saturday last Judge McLaughlin, of the Circuit Court, granted a charter to the Irish Creek Mineral & Development Co., which proposes to undertake this development. Its maximum capital stock is \$800,000. The prospectus of the company has been issued; \$500,000 worth of stock has been placed on the market and more than one-third of it has already been taken. It is issued in shares of \$50 each. The officers of the company are: R. E. Lee, of King William county, president; R. E. Lee, C. A. Holt, of Staunton, S. H. Letcher and E. B. Moon, of Lexington, Baker P. Lee, of Hampton, C. A. Pfau and L. H. Woddrop, of Philadelphia, J. C. Shields, of Rockbridge, and E. M. Moon, of Richmond, directors; G. D. Letcher, secretary and treasurer.

The president, Capt. R. E. Lee, is the youngest son of Gen. Robert E. Lee; Messrs. Pfau and Woddrop are large shoe manufacturers of Philadelphia; Mr. E. M. Moon is a prosperous tobacco manufacturer of Richmond; Mr. Holt is a leading business man of Staunton; Maj. Baker P. Lee is a prominent lawyer of the Eastern Shore, at one time editor of the *Industrial South*; the other three, of Rockbridge, Messrs. Shields, Moon and Letcher, are too well known to need introduction.

There is that about the location of the property and about its history which in its inception gives promise of success to the promoters of the enterprise. At the mouth of Irish creek and at the angle it makes with South river, there lies a beautiful expanse of bottom and table land. It is upon 1,000 acres selected at this point that the town is to be laid out. This land is what, from the earliest history of Rockbridge, has been known as "the Irish creek farm"—a farm noted for its fertility and beauty of location. Owing to the water-power the locality affords and the rich mineral deposits near by, there has hardly been a time

in the history of the county until recent years when some industrial enterprise has not been conducted upon or close by this farm. A short distance above it upon the creek and upon the company's property there stands the old stack of the first iron furnace ever operated in Virginia west of the Blue Ridge. It was at this point during the war of the Revolution that one Dougherty manufactured pig metal, which was boated down the James and its tributaries to a short distance above Richmond and there manufactured into bombs, which were used against the fortifications of Cornwallis at Yorktown. A few miles further down the creek, on the site chosen for Cornwall, William Caruthers, in his day one of the enterprising citizens of Rockbridge, operated a forge and workshop, at which he manufactured and ironed carriages for the artillery used by the United States in the war against Great Britain in 1812. Here in 1853 E. J. & William Leyburn conducted an extensive foundry and machine shop, which later passed into the hands of Dr. J. D. McTaylor, who manufactured there bombshells for the United States government. Such is some of the local history which attaches to the Irish creek company's property—a history, however, striking in its similarity to that of the South river region in Rockbridge north and south of it.

The Shenandoah Railroad passes through the site of Cornwall, and it is here that the mountain road through the Irish Creek valley and from the adjoining sections of Amherst and Nelson, find access to this railroad, the only outlet for that section. Overlooking the farm and the narrow valley of Irish creek fourteen miles and more above lie the Blue Ridge mountains. They have always in the past been regarded by practical iron men as abounding in mineral wealth, and this testimony is corroborated by the experts of this day, many of whom have been engaged in examining them. Iron, it is known, exists there in practically inexhaustible quantities; traces of manganese are abundant, and it is in this valley that the Rockbridge tin mines lie, part of which are now being extensively opened up by Moses Joy and others, of Boston, with satisfactory results.

The company owns 4,000 and more acres of mineral lands immediately adjacent to its town-site, from which it will draw ores for its works. The tract was long owned by Dr. Archibald Graham, and is what is known as the "Graham" tract. It is universally admitted by those conversant with such matters, to be one of the finest iron properties in Rockbridge, and indeed in Virginia. The ores are not only very abundant but of a superior quality, as the testimony furnished by the company in its prospectus clearly demonstrates.

The basis of its wealth will be its iron, and upon that it can safely rest. Buena Vista is scarcely eight miles distant. Its iron lands adjoin those of the Buena Vista property. The same outcrop is found upon both. The ores in the first were long worked and always with profit, and constitute the basis of Buena Vista's development to-day. What is being accomplished as an iron town by Buena Vista may be safely predicted for Cornwall.

Its name, however, is significant of a development of a different character. Cornwall in England is noted for its tin mines, and this Cornwall will be the town in closest proximity to the tin mines in Rockbridge. We believe the day is not far distant when tin mining will be an important industry in Rockbridge.

The location is inviting, and in every way suitable for manufacturing purposes; the mineral deposits are large and valuable in their character, and the company has men of character, energy and means conducting it. There is everything to promise that Cornwall will move forward and meet with substantial success, as have the other industrial towns started in Rockbridge in the two years past.—Rockbridge (Va.) News, October 25.

Iron Is King.

One of the marvelous facts of the past quarter of a century is the rapid increase in the consumption of iron. Mr. Abram S. Hewitt, of New York, whose opinions on such a subject are regarded as entirely reliable, estimated the world's consumption of iron in 1856 per capita at seventeen pounds. In a recent paper contributed by Hon. Edward Atkinson to the Baltimore MANUFACTURERS' RECORD, which demonstrates that truth is really and truly more romantic than fiction, this eminent statistician shows that the world's consumption of iron in the year 1900 will be 56,000,000 tons. This is just double the present production, and it is estimated on the basis of the increase in the past thirty years—the probability is that the rate in the next ten years will be much larger.

Mr. Atkinson assumes, and certainly not without reason, that "the utmost effort of production at every point where the raw materials can be assembled at reasonable cost, and where furnaces can be operated to advantage either upon the European or North American continent," will be required to meet this enormous increase in demand. And in this connection we may reasonably take into consideration not only the construction of the railroads in Asia and Africa, where no attempt has been made heretofore to build and operate them, but in addition the rapidly increasing demand for structural iron. Objections to the use of iron for building purposes are made. Science is being invoked to overcome these objections. The chemist is combining with the architect and with the builder. New revelations are coming to light and new processes discovered. Man's inventive genius is spurred to its utmost effort, and the discoveries in the manufacture of iron are destined to take rank with the highest and most useful discoveries of the world. So it is perfectly safe to assume that Mr. Atkinson's estimate of the world's consumption of iron in the year 1900 are none too high.

And, assuming the truth of his assertion, which is really axiomatic, that the "utmost effort of production" will be required "at every point where the raw materials can be assembled at reasonable cost," it is perfectly safe to say that the development of the iron industries of the South are but the faintest glimmerings of the morning sun's first ray of light. It is a fact no longer disputed that iron can be made in Virginia, Tennessee and Alabama at a less cost than in any other section of the globe. Mr. Atkinson accompanies the paper above alluded to with one furnished from Knoxville by George B. Cowlan and Goldsmith B. West, who make some astonishing statements, and more astonishing because strictly true. Their paper relates to the resources of the Southern Appalachian region, and what they write is based upon actual observation on the grounds by competent and impartial experts. Speaking of the coal fields of this region, they assert that, "comparatively speaking, this Southern Appalachian coal fields contains forty times the amount of coal accessible to economical production and distribution contained in the coal field of Great Britain before a pick was struck in the ground." Along the southeastern side of this coal line is a belt of iron ores, none exceeding 100 miles distant from the coal fields, and extending 700 miles in length.

Then if iron is king, and he undoubtedly is, the center of his dominions is this mineral belt of the South. Nowhere on earth has there ever been discovered such an immense deposit of various qualities of iron ore in such close proximity to such an abundance of cheap and good fuel. And when, ten years hence, the consumption of iron and steel will have been doubled, and the iron product of the United States will have more than doubled, trebled perhaps, it is safe to say that the whole industrial

situation of the Tennessee valley will have been revolutionized. There are grown men, men well advanced in life, who will live to realize the truth of what is above asserted, that which we have already had, in the way of developing the iron interests of the South, is but the first faint morning ray of a bright and glorious day that is now dawning. The wealth has been piled up in these mountains, hills and valleys throughout the centuries awaiting man's time to utilize it. The time is now at hand when it will be developed, and when developed it will be counted by thousands of millions. King Iron is upon his throne, and the edict has gone forth that the mineral belt of the South shall form the advance guard in the march of his loyal subjects.—Knoxville Journal.

MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

B.-G.S. Ring Factory.—McKoy & Jackson, Newnan, Ga., wants prices on machinery for manufacturing bed springs.

Boilers and Engines.—E. A. Oldham, Norfolk, Va., wants price of 75 horse power engine and boiler from manufacturers who will take stock in co-operative enterprise now organizing.

Boilers and Engine.—The Southern Lumber & Manufacturing Co., Chattanooga, Tenn., is in the market for two 3-inch tubular boilers, full front, with all fittings and connections; also for an engine 16x20 or 24.

Boiler and Engine.—The Willingham Sash & Door Co., Chattanooga, Tenn., wants a 50 horse-power boiler and engine, either new or second-hand.

Boiler and Engine.—Hooker, Littlefield & Steere, Knoxville, Tenn., will be in the market for a boiler and engine.

Boiler and Engine.—The Excelsior Pressed Brick Co., C. Warden, secretary, Staunton, Va., will be in the market for a boiler and engine.

Boiler, Engine, etc.—The Littleton Oil & Gas Co., Littleton, W. Va., will want a 35 horse-power boiler, 25 horse-power engine, casing and other fittings for developing oil and gas lands.

Boiler.—A. A. Walden, Belton, Texas, wants a new steel boiler of 70 horse-power.

Bottling Works.—George R. Brown, Lock Box 122, Johnson City, Tenn., will purchase apparatus for manufacturing soda, pop, etc.

Brick Machinery.—The Excelsior Pressed Brick Co., C. Warden, secretary, Staunton, Va., will soon be in the market for machinery.

Cabinet Factory.—The Tallapoosa Cabinet Co., Tallapoosa, Ga., will want some machinery.

Candy Factory, etc.—Hooker, Littlefield & Steere, Knoxville, Tenn., coffee roasters and manufacturers of candy, will be in the market for some additional machinery.

Canning Factory.—J. P. S. Nelson, Humboldt, Tenn., will purchase outfit of machinery for a canning factory with capacity for 3,000 cans daily.

Cement Works.—Robert T. Hill, Box 567, Austin, Texas, wants estimates on machinery for the manufacture of cement.

Cotton Gin.—J. M. Tyns, Parham's Store, Va., wants a cotton gin.

Crate Factory.—S. J. Temple, Temple's Mill, Fla., wants machinery for manufacturing orange and strawberry crates.

Dynamo.—J. M. B. Cripps, New Castle, Va., wants a dynamo for incandescent lights.

Electric-light Plant.—R. L. Porter, mayor, Greenville, Texas, will receive bids until October 20 for furnishing an electric light plant with capacity for 25,000-candle-power arc and about 800 incandescent lamps; also wire.

Electric and Steam Plants.—The Houston City Street Railway Co., Houston, Texas, will want complete electric and steam plants to operate its lines by electricity.

Engine.—W. S. Foutz, Bluefield, W. Va., wants a 12 or 14 horse-power stationary engine on sills.

Engine.—J. P. S. Nelson, Humboldt, Tenn., will purchase a small engine.

Engine.—R. L. Porter, mayor, Greenville, Texas, will receive bids until October 20 for furnishing a 100 horse-power engine for electric-light plant.

Excelsior Machinery.—The Cedartown Furniture Manufacturing Co. (P. O. Box 6), Cedartown, Ga., will purchase excelsior machinery.

Grain Elevator.—The Victor Mills Co., Morgan-

town, W. Va., wants all necessary machinery for a 30,000-bushel grain elevator.

Hesters.—E. M. Heray, Houston, Texas, wants prices on hot-air heaters for large public building.

Ice Machine.—The Florence Ice Co., Florence, Ala., will want a 15-ton ice machine.

Locomotive.—The Muskegon Lumber Co., Jasper, Fla., will purchase a light four-wheel locomotive.

Mill Stones.—J. M. Tyns, Parham's Store, Va., wants a pair of 48 inch mill stones.

Pump.—The Cedartown Furniture Manufacturing Co. (P. O. Box 6), Cedartown, Ga., will purchase a pump.

Pumps and Tubs.—George R. Brown, Lock Box 122, Johnson City, Tenn., will purchase a steam pump and porcelain bath tubs.

Rails.—The Florence Ice Co., Florence, Ala., will purchase iron rails.

Rails.—The Muskegon Lumber Co., Jasper, Fla., is in the market for 2½ or 3 miles of 16 or 20-pound T rails, with necessary fastenings, two or three switches, etc.

Re-saw.—The Sullivan Manufacturing Co., Anderson, S. C., wants prices on a 36-inch circular re-saw machine, either new or second-hand.

Re-saw.—The Demorest Bath Tub Works, Demorest, Ga., will purchase a re-saw.

Rolling Mill.—The Roane Iron Co., Rockwood, Tenn., wants estimates on plant for a first-class rolling mill.

Rolling Stock.—The Buena Vista Street Railway Co., Buena Vista, Va., will purchase rolling stock for its street railway.

Salt Works.—All necessary machinery will be wanted for salt works, to be located at Barboursville, Ky. The salt is to be evaporated by natural gas. Address S. B. Dishman.

Saw and Planing Mill Machinery.—The Summit Lumber Co., Summit, Texas, may want some new saw and planing mill machinery.

Saw Mill.—J. M. Tyns, Parham's Store, Va., wants a saw mill.

Saw Mill.—R. W. Snelling & Co., Seneca, Texas, will purchase nearly every class of machinery pertaining to a saw mill.

Shafting, etc.—The Southern Lumber & Manufacturing Co., Chattanooga, Tenn., is in the market for 130 feet of 2 15-16 shaftings, couplers and boxes.

Shafting, Hangers, and Pulleys.—E. A. Oldham, Norfolk, Va., wants prices from dealers who are willing to take stock in co-operative enterprise now organizing.

Street Railway.—The Buena Vista Street Railway Co., Buena Vista, Va., will purchase material for constructing two or three miles of street railway.

Stump Puller.—Henry N. Copp, Washington, D. C., desires to purchase a stump puller.

Tinners' Tools.—The Demorest Bath Tub Works, Demorest, Ga., will purchase tinners' tools.

Twine Factory.—W. E. H. Searcy, Griffin, Ga., wants machinery for making twine.

Wheelbarrow Factory.—C. H. D., 25 E. Battery, Charleston, S. C., wants information and prices on machinery required for a wheelbarrow factory.

Wire and Picket-fence Machine.—Kohler & Heldenfels, Beeville, Texas, want the address of manufacturers of a combination wire and picket-fence machine.

Woodworking Machinery.—W. S. Foutz, Bluefield, W. Va., wants the following second-hand machinery: A small single surfacer and matcher, small moulding machine, jig band saw, mortising machine, cut-off saw, rip saw and a turning lathe.

Woodworking Machinery.—The Cedartown Furniture Manufacturing Co. (P. O. Box 6), Cedartown, Ga., will purchase machinery for manufacturing coffins, chairs, furniture, sash, doors and blinds.

Woodworking Machinery.—A. C. Fisher, Wheeling, W. Va., wants cash prices on an improved blind stile boring and mortising machine, Wilbur patent pulley mortising machine, No. 2 tenoning machine, with double heads and two copes, No. 2 mortiser, 7-inch four-sided moulder, and a new band planer and jointer.

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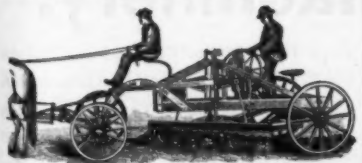
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About twelve acres of land, a three-story brick
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On account of the death of the head of
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Will sell on easy terms.

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ment. The patterns and tools may be moved to
any city, as the real estate now occupied by the
plant has been sold. Address "M. R." care of
Manufacturers' Record, Baltimore, Md.

SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M., on the 21st day of October, 1890, for all the
labor and materials required for the plumbing for
the U. S. Postoffice building at Bridgeport, Conn.,
in accordance with the drawings and specifi-
cation, copies of which may be had on application
at this office or the office of the Superintendent.
Each bid must be accompanied by a certified
check for \$100. The Department will reject all
bids received after the time herein stated for the
opening the same, also bids which do not comply
strictly with all the requirements of this invita-
tion. Proposals must be enclosed in an envelope,
sealed and marked "Proposal for the Plumbing
for the U. S. Postoffice at Bridgeport, Conn." and
addressed to JAS. H. WINDRIM, Supervising
Architect. September 27th, 1890.

SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M., on the 17th day of October, 1890, for all the
labor and material required for the excavation,
concrete foundations, stone and brick work of the
basement and area walls of the U. S. Postoffice,
&c., building at Scranton, Pa., in accordance
with the drawings and specification, copies of
which may be had at this office or the office of the
superintendent at Scranton, Pa. Each bid must be
accompanied by a certified check for \$500. The
Department will reject all bids received after the
time herein stated for the opening of the same,
also bids which do not comply strictly with all
the requirements of this invitation. Proposals must
be enclosed in envelopes, sealed and marked
"Proposal for the Excavation, Concrete Foundation,
Stone and Brick Work for the Basement and
Area Walls of the U. S. Postoffice, &c., at Scranton,
Pa.," and addressed to JAS. H. WINDRIM,
Supervising Architect. October 3, 1890.

SEALED PROPOSALS will be received at the
office of the Supervising Architect, Treasury
Department, Washington, D. C., until 3 o'clock
P. M., on the 15th day of October, 1890,
for all the labor and material and fixing in place
complete the low-pressure steam-heating and
ventilating apparatus for the U. S. Courthouse
and Postoffice building at Charlotte, N. C., in
accordance with drawings and specification,
copies of which may be had on application at
this office or the office of the superintendent at
Charlotte, N. C. Each bid must be accompanied
by a certified check for \$100. The Department
will reject all bids received after the time herein
stated for the opening of the same, also bids
which do not comply strictly with all the require-
ments of this invitation. Proposals must be
enclosed in an envelope, sealed and marked
"Proposal for the Low-pressure Steam-heating
and Ventilating Apparatus for the U. S. Court-
house and Postoffice building at Charlotte, N. C.,"
and addressed to JAS. H. WINDRIM, Supervising
Architect. September 25th, 1890.

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One 40 to 50 Horse-Power Second-

Hand BALL ENGINE. Good as new.

One 40 to 50 Horse-Power Second-

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Will be sold at great bargain. We sell to put

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- 1 15-in. Crank Shaper.
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- 1 Water Grinder.
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All the above are NEW and will be sold at a BARGAIN. Write for our complete catalogue.

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Write us for what you want and send description of Machinery that you wish to trade or sell.

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- 1 3,000 Spindle Carpet Warp Plant.
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- 1 System Bagging Machinery, capacity 30,000 lbs. per week.
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Also a large lot of Miscellaneous Machinery in first-class condition.

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Days," where over 400 miles of wooden pipe was laid in Dublin, Ireland, in 1632, some of which taken up in 1862, 249 years afterward, were found to be in a good state of preservation. The Wyckoff Pipe Co., of Williamsport, Pa., manufactures a wooden pipe which has been accorded many testimonials for durability and efficiency on being used for various purposes. The process by which the pipe is made is described in a folder issued by the company. The logs are first bored the desired size by a peculiarly constructed auger which makes a smooth bore, the sap is then turned off in a lathe and the pipe placed on a machine where iron bands are wound on spirally the entire length and pressed by steam until they become imbedded in the wood. After a test by hydraulic pressure of from 50 to 300 pounds per square



NEW PAN FOLDING MACHINE.

which slides the two wings shown on bed to their place. The wings in the rear are then brought together, which folds the ends; the pan being reversed, is complete by another operation. This machine can be made available for folding different sizes and shapes by the addition of other attachments, as may be desired. It supplies a long-felt want for a machine in this line. Further particulars may be obtained from the manufacturers, the Niagara Stamping & Tool Co., of Buffalo, N. Y.

NATURAL BRIDGE TO BE LIGHTED BY ELECTRICITY.—This wonderful work of nature will soon be lighted by electricity. L. N. Cox, agent for the Southeastern department of the National Electric Manufacturing Co., Eau Claire, Wis., has just closed a contract with Gen. Fitzhugh Lee for an electric-light plant to light Glasgow and the Natural Bridge. The plant will be run by water-power. Besides lighting the bridge, streets and hotels, lights will be furnished for stores and residences. 50 arcs and from 1,500 to 2,000 incandescent lights will be used. Mr. Cox has also closed contract for the erection of an electric-light plant at Florence, S. C. About 40 arcs and 800 incandescents will be required. The National incandescent and Western arc system will be used. An ice factory will be erected in connection with the plant at Florence.

The durability of wooden pipe is something remarkable. Instances are on record of pipe of this kind being underground for 70 years and over still in use. One case is noted in W. & R. Chambers' "Book of

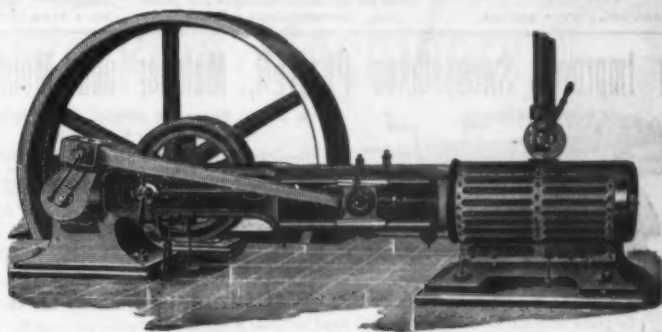
inch, according to the strength of the pipe, it is heavily coated with asphaltum cement to prevent any corrosive substance from reaching the iron and to preserve the wood, and is then completed. Connections are made by socket joints, which become perfectly tight on being driven together and present the feature by which a line can be laid very rapidly. The company also manufactures a steam-pipe casing, and has large works for creosoting timber.

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No. 56 E. Price List, sent by mail.		No. 95. Price \$4.00. With Square Thread Cutter, \$5.00. With Square Thread Gauge, Depth Gauge, and Fine Machinists' Tools. Illustrated catalogue free to all.	
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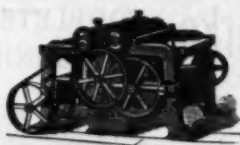
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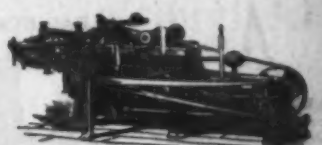
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Horizontal Borer.



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OF EVERY DESCRIPTION,

For Planing Mills, Sash, Door and Blind Shops, Furniture, Carriage and Wagon Factories,
Spoke, Wheel and Agricultural Works, Car Shops, etc.

Awarded "GRAND PRIX" at the Great PARIS EXPOSITION of 1889.

Every Machine Tested and Warranted.
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No. 3-Band Saw.

Established
1853.**Wheeler, Madden & Clemson Mfg. Co., Middletown, N.Y.**

Manufacturers of Hand, Cross-Cut and Wood

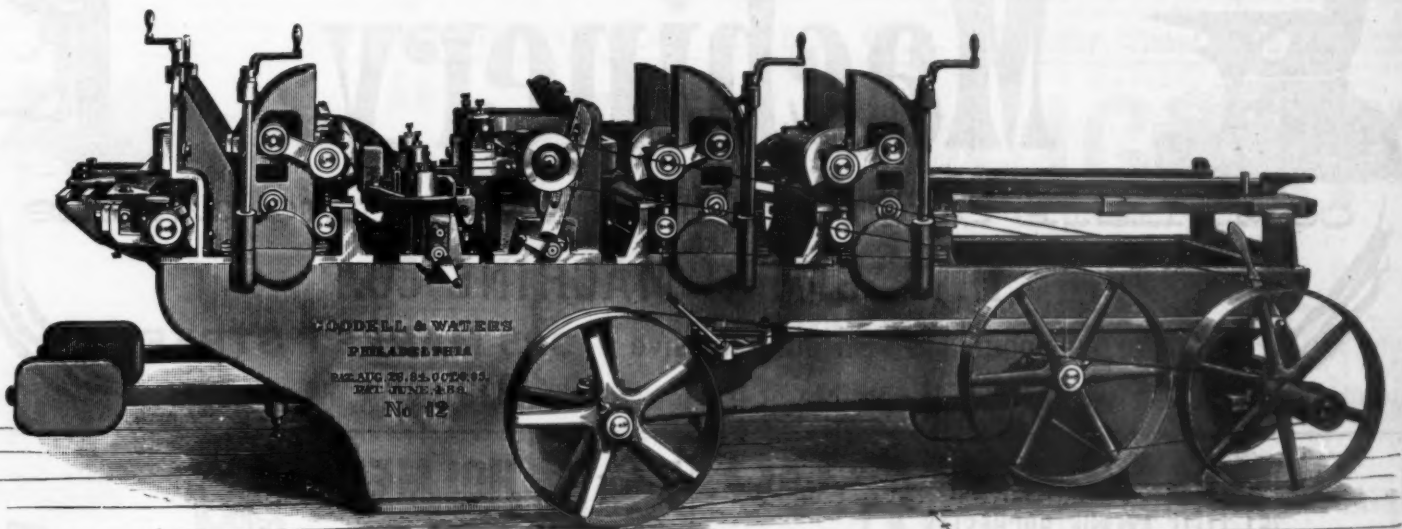
No. 24 Hand, Panel and Rip Saws—25-inch, list \$20.00
per dozen.PRICE, QUALITY and general SUPERIORITY taken into consideration, this is the Best Hand Saw
on the market for Mechanics use.**SAWS.**

Extra Thin Back. Patent Handle. Hollow Back Blade.

PERFECT TEMPER. ELEGANT FINISH. SUPERIOR FILING.

CROSS-CUTS furnished in all the leading shapes, sizes and styles of teeth, in both WIDE,
NARROW and ONE MAN Saws. Only the very best of Crucible Steel of our own manufacture
enters into our goods, and we fully warrant them in each and every particular. We are now turning
out the finest goods ever produced in our line. For Sale by all Leading Jobbers and Dealers.**GOODELL & WATERS,**

BUILDERS OF

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No. 12 SIX-ROLL PLANER AND MATCHER.

To Double or Single Surface 24 inches wide up to 6 inches thick and match 19 inches wide. Weight 7,000 pounds.

Our line of Planing Mill Machinery is very complete. During the past year we have introduced many new and improved tools, and you will do well to consult our catalogue
Estimates cheerfully given for complete mill outfits.**GOODELL & WATERS,**

Western Warerooms, Chicago and San Francisco.

MANUFACTURERS,

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Established 1874.

MANUFACTURERS OF

Taper Shank Drills,
Straight Shank Drills,
Blacksmith Drills,
Bitstock Drills,
Straight Fluted Drills,
Machine Bit Drills.**Cleveland Twist Drill Co.**

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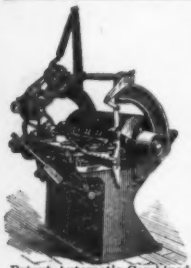
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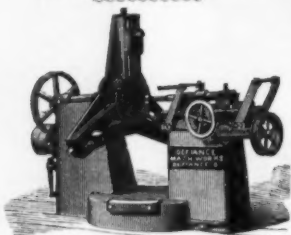
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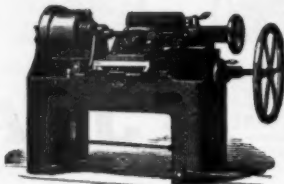
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HUB, SPOKE, WHEEL, BENDING Wagon and Carriage Machinery.

Patent Plow-Handle Benders, Shapers, Cut-off Saw and Revolving Polishers, Hot-Form, Double and Single Bent Pole and Express Shaft Benders, Neck-Yoke, Singletree, Brush Handle Lathes and Finishing Machines. Estimates and Circulars given upon application.

COMPLETE OUTFITS
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Patent Automatic Double Chisel Hub-Mortising Machine. Built in three sizes.

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Complete
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Time and Labor Saving
Machines to Reduce Cost
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MACHINERY**

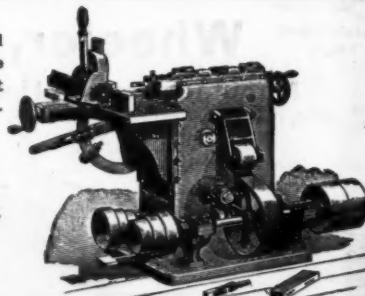
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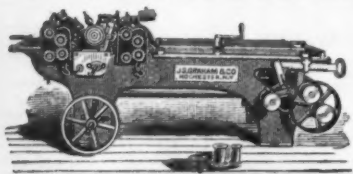
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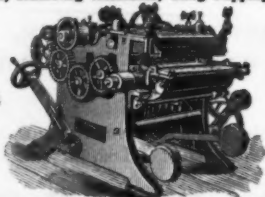
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PETER GERLACH & COMPANY,

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Manufacturers of **Alligator Chisel-Bit Saws,**

The CHAMPION STATE, HEADING and SHINGLE MACHINES. Ice Tools and Mill Supplies.

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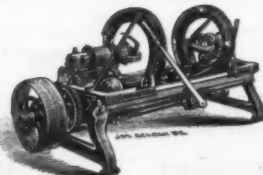
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Chambers Patent Barrel Heater.

Capacity 300 tight or 500 slack barrels per day.
The best Heater made.

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SHAFTING, PULLEYS AND HANGERS.



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 MANUFACTURERS OF **KNIGHT'S**
SOLID AND INSERTED TOOTH
CIRCULAR SAWS
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IMPROVED MILL DOGS.
 Over 15,000 in use in the
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PERFECTLY UNIFORM SPEED

For DYNAMOS and all Classes of MACHINERY, when run by WATER-
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OUR INTERMEDIATE SPEED REGULATOR

Maintains a Perfectly Uniform Speed, no matter how variable the driving power may be. The speed
 can be changed at any moment by moving a shipper over a range of 30 per cent.
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Manufacturers of the

<BEST OXIDE OF IRON PAINT MADE IN THE UNITED STATES.>

Over 18,000 tons made since 1880. 3,000 tons made in 1888. Over 500 certificates
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ORDER DIRECT FROM THE

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And get the genuine article, and
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IRON-CLAD PAINT is the
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FURNISHED both Dry and
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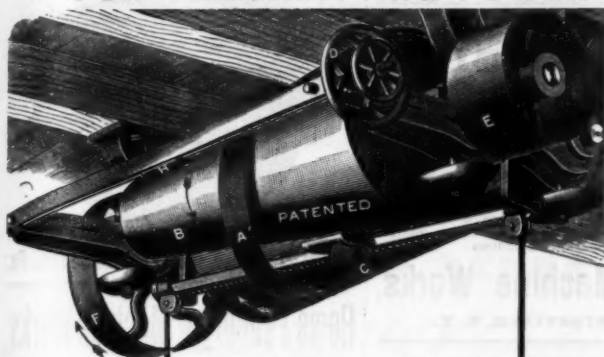


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THE EVANS SYSTEM OF FRICTION

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FOR TRANSMITTING POWER WITH EITHER STEADY OR VARIABLE SPEED.



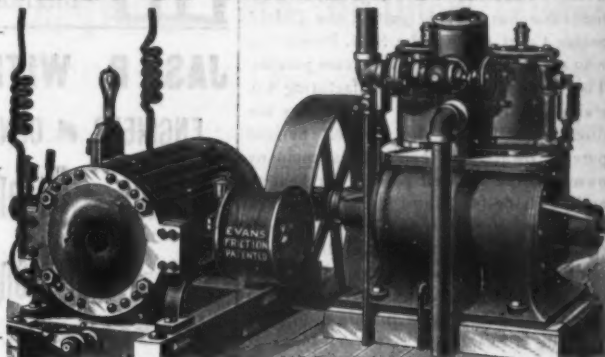
WE GUARANTEE

GREATER

EFFICIENCY

THAN WITH

ORDINARY BELTS.



By the use of our Friction Cones the speed of any machine may be varied automatically or by hand
 while the machine is running, and the machine can be started and stopped
 without the use of loose pulleys.

The above cut represents a dynamo being driven from a Westinghouse engine by our system.
 Advantages: Room Saved! Power Saved! Belting Saved!
 Each dynamo may be started or stopped without the use of clutch pulley, and without slowing the
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We refer you to Plants which we
 have in Successful Operation.

EVANS FRICTION CONE CO., 85 Water Street. BOSTON.

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THE "WELLS LIGHT."

WALLWORK & WELLS' PATENTS. (Registered Title.)

Powerful Portable Light UP TO 2,000 C. P.

Self Contained. No Outside Motive Used. Complete in Itself, as shown by Accompanying
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3,000 SOLD LAST SEASON.

UNAFFECTED BY WEATHER.

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Manufacturers of and Dealers in all kinds of

SET, CAP and MACHINE

+ **SCREWS.**

MORSE TWIST DRILLS,
 COLD PUNCHED NUTS,
 TAP WRENCHES,
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BOLT CUTTERS,

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188 W. 2d Street,

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For **SOAP MAKERS** and **BUTCHERS' MACHINERY**, Address **H. Wm. Dopp & Son, Buffalo, N. Y.**

TRADE NOTES.

THE American Axe & Tool Co. is sending out the following notice from Pittsburgh: "Our offices at Pittsburgh, Pa., Boston, Mass., and Troy, N. Y., will be discontinued October 15th next. On and after that date please address all correspondence to our new office, Room 65, Stewart Building, New York city."

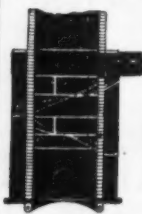
THE Weston Engine Co., of Painted Post, N. Y., are sending out a nicely illustrated catalogue in which is set forth in clear and concise form the advantages of the Bronson water tube boilers as a heating apparatus. The manufacturers attach special importance to the following points in the Bronson: Economy, simplicity, automatic, self-feed, uniform temperature, ease of management, no noise, durability, safety, compactness, no gas, scientific grate and efficiency. Every person interested either in heating homes, churches, schools, public buildings, stores, factories or any kind of building should have a copy of this catalogue. It will be sent free upon application.

HEATER INFRINGEMENT SUIT.—The Stilwell & Bierce Manufacturing Co., of Dayton, Ohio, has brought suit in the United States Court against the S. N. Brown Co., who are using a Hoppes live steam purifier. The Stilwell & Bierce Manufacturing Co. claim that in using this purifier they are directly infringing the Stilwell purifier patents owned by them. This company owns all the Stilwell patents for heating and purifying feed water for steam boilers, and manufacture the well-known Stilwell exhaust heater and the Stilwell live steam purifier. Having been engaged in this business for a good many years, they claim to be the oldest house in this country in this line of business.

W. G. HYNDMAN & CO., manufacturers of iron and steel roofing, 52 and 54 East Second street, Cincinnati, Ohio, are just putting on the market a new crimped siding and ceiling, which, it is claimed, possesses many advantages over corrugated iron for both siding and ceiling, and will in a measure supersede it. A square of this siding, so the manufacturers claim, will cover from four to five per cent. more surface than a square of corrugated as usually sold, while the price is the same. It is said to be more easily cut to necessary lengths than corrugated, and the ends are more easily made to fit neatly together; therefore the cost of putting it on is less than for corrugated. This siding can be laid horizontally or perpendicularly, and makes an excellent appearance.

WE note the establishment of the new firm of Charles Paine & Sons, consulting and civil engineers, at 71 Broadway, New York. Mr. Charles Paine, past president American Society Civil Engineers, has been widely known throughout this country for the last 25 years as one of the leading railroad managers, while his experience as a professional railroad engineer extends over a period of nearly half a century. Thus it is not surprising that this new firm should make a specialty of railroad work, for which the senior member is so peculiarly fitted by his former labors as general superintendent of the Lake Shore & Michigan Southern, and general manager of the West Shore, second vice-president of the Erie, etc. The sons also have had long experience in the details of railway construction and maintenance, and a practical familiarity with electrical details, one of them being especially accomplished in signalling and another in the use of electrical appliances. As experience commands a higher premium than any other form of equipment, we feel safe in predicting a successful career for the firm.

ROBERT T. HILL, Box 567, Austin, Texas, desires to secure artisans who understand the manufacture of Portland, hydraulic and other cements.



VICTOR COLLIAU,
Sole Manufacturer
OF THE
Improved Patent HOT BLAST
Colliau Cupola.
Address 287 Jefferson Ave.
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The COLLIAU
PATENT
Cupola Furnace.
Adapted to all Foundries,
The Most Economical,
The Lowest in Price.

MANUFACTURED EXCLUSIVELY BY
BYRAM & CO.
DETROIT, MICH.

JAS. P. WITHEROW,
ENGINEER & CONTRACTOR,
Furnace & Steel
Plant Construction.
PITTSBURGH, U. S. A.

Blast Furnaces and Steel Works designed and erected complete in every detail ready for operation. Special attention given to the manufacture of

* HEINE *
Safety Water Tube Boilers.

Owning an extensive manufacturing plant, I can guarantee promptness in execution, and satisfaction in any contracts undertaken by me.

Gordon, Strobel & Laureau,
(LIMITED),
ENGINEERS AND CONSTRUCTORS,
PHILADELPHIA, PA.
**BLAST FURNACES,
STEEL PLANTS,
FIRE-BRICK STOVES,
BLOWING ENGINES.**

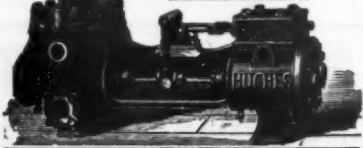
We are sole manufacturers of the Gordon-Whitwell-Cowper Fire-Brick Hot-Blast Stove, and within four years have introduced them as follows:

Jefferson Iron Works, Ohio.....	4
North Chicago Rolling Mill Co., Ill.....	3
Joliet Iron & Steel Co., Ill.....	4
Missouri Furnace Co., Mo.....	2
Jupiter Furnace Co., Mo.....	3
Western Steel Co., Mo.....	2
Tenn. Coal, Iron & R. R. Co., Ala. and Tenn.....	21
Cleveland Rolling Mill Co., Ohio.....	4
Belmont Nail Co., W. Va.....	3
Sloss Iron & Steel Co., Ala.....	8
Sheffield & Birmingham Coal, Iron & R. R. Co.....	9
Southern Iron Co., Tenn.....	6
Decatur Land, Iron & Furnace Co., Ala.....	2
N. Y. & Perry Coal & Iron Co., Ohio.....	2
Princess Furnace, Va.....	4
Irondale Furnace, W. Va.....	2
Cornwall Anthracite Furnaces, Pa.....	4
Duluth Iron & Steel Co., Minn.....	3
Geo. P. Whittaker Co., Md.....	2
Phila. & Reading Coal & Iron Co., Emans, Pa.....	3
Burden Iron Co., Troy, N. Y.....	3
Junction Iron Co., Ohio.....	4
Lawrence Furnace Co., Ohio.....	2
Piedmont Land & Improvement Co., Ala.....	2
Eckert & Brother, Reading, Pa.....	2
Leesport Iron Co., Leesport, Pa.....	2
Total.....	107



HUGHES STEAM PUMP CO.
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MANUFACTURERS OF
Single, Duplex and Compound Pumps
FOR ALL DUTIES.
WATER WORKS PUMPING ENGINES.
SEND FOR CATALOGUES AND PRICE LISTS,
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BOILER**

Until you have seen our circulars. Engines complete from 5 to 110 horse power, both Vertical and Horizontal, at prices below those of other reputable makers. 16000 in use. Boilers of every style. Automatic Engines for Electric Lights. Centrifugal Pumping Machinery for Drainage or Irrigation. Established 25 years. Perfect satisfaction guaranteed. Ask for Circular M and address

Morris Machine Works,
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THE GREAT IMPROVEMENT IN
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We are now ready to supply the product of entirely new machinery and processes just completed by which we not only have greatly improved the strength and durability of our well-known ASBESTOS ROOFING, but have also secured a degree of uniformity never before attained in any similar fabric. We offer this as the PERFECTED form of the portable Roofing which we have manufactured with continued improvements during the past thirty years, and as the most desirable Roofing for general purposes.

The important features of our recent improvements, for which patents have been allowed in this country and in Europe, are described in our new circular, which, with samples, will be sent free by mail. Our Asbestos Roofing is now in use upon Factories, Foundries, Cotton Gins, Railroad Bridges, Cars, Steamboats, etc., in all parts of the world.

It is supplied ready for use, in rolls of 200 square feet, and weighs with Asbestos Roof Coating, ready for shipment, about 85 pounds to 100 square feet. It is adapted for steep or flat roofs in all climates, and can be readily applied by unskilled workmen.

There are inferior imitations of our Asbestos Roofing, purchasers are cautioned.

Samples and Descriptive Price List free by mail.
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SOLE MANUFACTURERS OF
H. W. Johns' Liquid Paints,
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Planers with Quick Return,
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OVERHEAD TRAMWAY, with
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Send for estimates.



This Wheel is strong and durable. Excelled all other wheels in the great trial tests. Is in use all over the nation. I also make a specialty of
HEAVY GEARING & MACHINERY
For Paper, Cotton and Grist Mills.
S. MORGAN SMITH, York, Pa.

**THE IMPROVED LANCASTER
Turbine Wheel.**



Lancaster Turbine Wheel Co. Lancaster, Pa.

Rome Foundry & Machine Works,
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Manufacturers of the well known
DAVIS DOUBLE TURBINE

Water Wheel

Beyond all question one of the best Wheels on the market, and is fully guaranteed.



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**Portable & Stationary Engines
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High Percentage,
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CLOSE FITTING
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EASY WORKING GATE

Under all Circumstances.
Sold under Full Guarantee at Low Prices.

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CHRISTIANA MACHINE CO., Christiana, Pa.
Makers of all kinds of Machinery for Transmitting Power. Perfect Goods Only.

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The Most Beautiful Residence Portion of this Growing City is

LONGWOOD PARK,

The Property of the Longwood Land & Improvement Co.

The property is within five minutes' walk of the N. & W. R. R. depot. It is intersected by broad, oak-shaded avenues, and divided into building lots averaging ninety feet front by 230 feet deep. A superb view of the beautiful Peaks of Otter visible from every part of the property. Prices range from \$6 to \$12 per front foot, according to location, &c.

No Better Investment can be made than in Lots in Longwood Park, at these Prices.

THE CITY HAS AN ESTABLISHED SOCIETY.

Churches, Schools and Academies, (among them the finest in the South,) Manufactures of many kinds, a magnificent supply of Free-stone Water, systems of Arc and Incandescent Electric Lighting, admirable Railroad Connections, a surrounding country of unlimited Mineral Resources and Great Fertility. For further information apply to

R. KENNA CAMPBELL, Gen. Manager

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THE PLACE FOR FACTORIES.

THE ROANE IRON CO.

WILL BUILD UP A

LARGE MANUFACTURING CITY

AT

ROCKWOOD, TENN.

AND IS PREPARED TO OFFER SUBSTANTIAL INDUCEMENTS TO MANUFACTURERS.

—AS TO RESPONSIBILITY OF THIS COMPANY, PARTIES ARE REFERRED TO EITHER DUNN OR BRADSTREET.—

FOR PARTICULARS ADDRESS

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THE
Future Manufacturing and Commercial Center
OF THE
GREAT SOUTHWEST.

DENISON SUPPLIES THE COAL FOR TEXAS.

She has at her gates the only **COKING COAL** of any value in the Mississippi Valley. To the Southwest lies the best **MAGNETIC IRON ORE** in the world, while to the north and Southeast are fields of **BROWN HEMATITE ORE** of the finest grade. These ores must meet the **COKE** and **COAL** at **DENISON** and there to be worked.

DENISON cannot be surpassed for **HEALTHFULNESS** and **BEAUTY** of location. Six divisions of railways terminate at Denison and are operated by her citizens.

DENISON has an abundant supply of pure, soft water and plenty of good, cheap **BUILDING MATERIAL**.

The attention of investors and those seeking advantageous locations for business or for manufacturing plants is invited to the opportunities presented at Denison.

MUNSON & BRO. HAVE SUPERIOR FACILITIES FOR THE SAFE AND PROFITABLE INVESTMENT AND HANDLING OF CAPITAL.

For information about **DENISON** and for bargains in **BUSINESS** and **RESIDENCE PROPERTY**, **ACRE PROPERTY** and **FARMS NEAR THE CITY**, write or call upon

MUNSON & BRO.

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Six Trunk Line Railroads at BESSEMER

In the heart of Mineral Alabama, encircled with hills of Coal, Iron and Limestone Rock.

"The South is the coming El Dorado of American adventure. May the Almighty speed and guide her onward progress!" So wrote the Hon. W. D. Kelley, M. C., of Pennsylvania, a few months ago, and every day brings forth new evidence to prove the correctness of his prediction and to show that without a doubt the South is to be the richest country upon the globe. In climate, soil, mineral and timber wealth, in rivers large and small, in a long seacoast, in abundant rainfall, in healthfulness and in every other advantage that could be asked nature seems to have done her best for this favored land. The wealth in iron and coal is beyond estimate. Of timber there is an unlimited supply, including nearly every variety of hardwoods for woodworking purposes.

WHERE
MONEY
WILL
GROW!

Seven Furnaces, output 1890, 250,000 tons; Rolling Mill, 100 tons daily; Fire Brick Works, 25,000 daily; Many Lesser Industries

Offers Thirty Varieties of Hardwoods for Woodworking Industries.

11,000 City Lots For Sale.

The Bessemer Land & Improvement Co.

this new year, are prepared to deal liberally for the founding of Iron and Woodworking industries in this growing Mining and Manufacturing Center.

H. F. DeBARDELEBEN, Prest.

H. M. McNUTT, Secretary.

BIG STONE GAP

COAL.

Two beds of coking coal, each one over six feet thick, making as good coke as is produced in the United States, will be mined and coked within three miles of the town. Two beds of gas and steam coal, each over four feet thick, and a bed of cannel coal underlies the same territory.

IRON.

Two reliable beds of red fossil iron, one carrying 48 per cent. iron, and a large deposit of Oriskany ore, carrying 52 per cent. iron, underlie in part the town site, and thousands of acres on lines of S. A. & O. R. R. and L. & N. R. R.

TIMBER.

The most valuable area of virgin forests, of walnut, hickory, oak, ash, yellow poplar, (white wood,) birch, hemlock and chestnut oak, in the United States, immediately tributary to the town.

WATER.

Supplied by two rapid rivers flowing around the town. Water works, piping from an elevation 350 feet above the town site, now under construction.

RAILROADS.

Concentration of railroads at this point inevitable. South Atlantic & Ohio now completed from Bristol, Tenn. Louisville & Nashville graded and nearly completed. Several other roads now under construction.

CHEAP FUEL. CHEAP RAW MATERIAL CHEAP TRANSPORTATION.

An \$800,000 iron plant under construction.
Five hundred coke ovens to be built at once.
Electric light, street railway, good hotels, etc., etc.

MORE ADVANTAGES COMBINED THAN CAN BE FOUND IN ANY OTHER LOCALITY.

Manufacturers Wanted. Substantial Inducements held out.

On and after September 15th lots will be sold at schedule rates. Reductions to builders. Address

Big Stone Gap Improvement Co., or Real Estate Exchange,

BIG STONE GAP, VA.

Great Sale of Lots, October 21, 22 & 23, 1890.

Come to HAGERSTOWN,

THE MAGIC CITY OF MARYLAND.

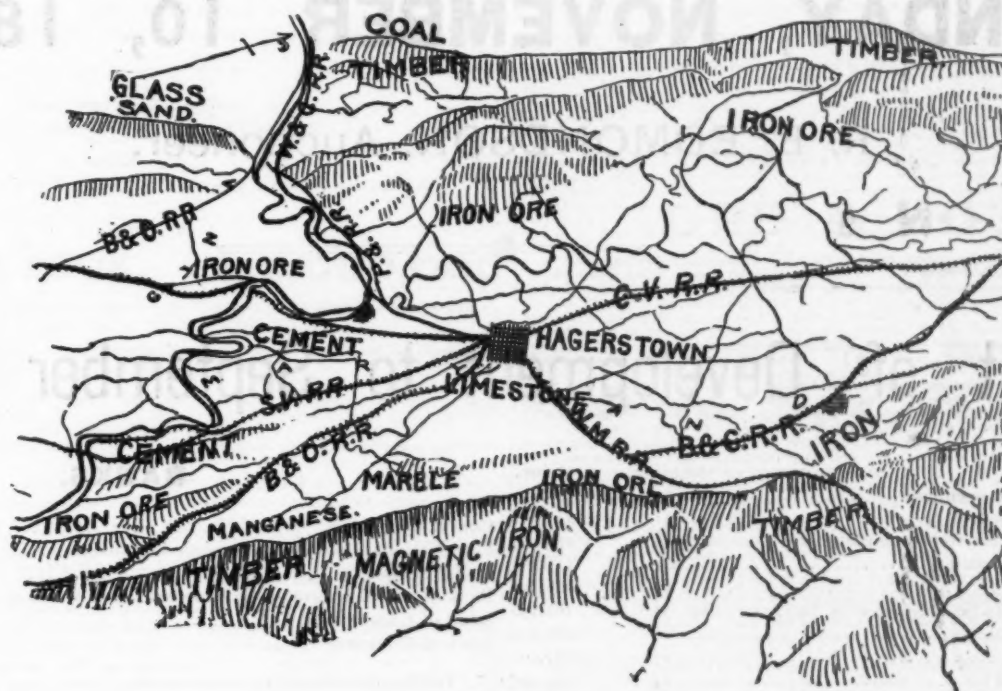
❖ WHERE MONEY GROWS RAPIDLY. ❖

THE INTER-STATE METROPOLIS.

Population in 1884, 5,000. Population in 1890, 11,000.

Her Growth Marvelous. Her Future Magnificent. 6 Railroads. Fifty Passenger Trains Daily (50.) Thirty-nine Mail Trains Daily (39). Unsurpassed for Manufacturing Facilities—95 already located, 6 in the last three months.

Its location commands the trade of Maryland, Virginia, West Virginia and Southern Pennsylvania. Substantial assistance given to manufacturers to locate here. Has magnificent Hotels, firm and well-graded Streets, Electric Lights, Pure Mountain Water and Free Postal Delivery.



Every Desirable Advantage here for all who are seeking Homes, Business, or Manufacturing Locations.

This contour map shows the location and railroad facilities of Hagerstown, in the "Garden Spot" of the Cumberland Valley.

Hagerstown Manf'g., Mining & Land Improvement Co.

WASHINGTON COUNTY, MD., REAL ESTATE DEALERS,

Own and Control about 1,000 Acres of Land adjoining the City Limits.

Capital Stock,	- - - -	\$1,000,000
Remaining in Treasury,	- - - -	575,000

OFFICERS.

PHARES M. MISHLER, Pres't.	R. M. KEEDY, Secretary.
J. D. MAIN, Treasurer.	H. H. STRAUB, Acting Sec'y.

DIRECTORS.

CHAS. W. SEBOLD, President, and Manager of the Hagerstown Spoke and Bending Works.
S. M. SCHINDEL, President and Manager of the United Silk Mfg. Co.
PHARES M. MISHLER, President and Manager Inter-State Fencing Co.
J. HANSON BEACHLEY, Wholesale and Retail Merchant.
CORNELIUS L. KEEDY, Proprietor and President of Kee Mar College.
REUBEN M. KEEDY, formerly in the Wholesale Notion Business.
J. D. MAIN, Merchant and Secretary of the Hagerstown Hedge & Fencing Co.
ALEX. R. HAGNER, Counsellor-at-Law and Attorney for Second National Bank.

900 Lots will be offered October 21, 22 and 23, 1890, VERY CHEAP. Lots sold June 12th, 1890, have trebled in value in 60 days. Come to the Sale and get on the ground floor. Easy Terms for all.

The MIDDLESBOROUGH TOWN CO.

ALEX. A. ARTHUR, President.

JOHN B. CARY, Sec. and Treas.

THE MIDDLESBOROUGH, KY., SEMI-ANNUAL SALES BY

PUBLIC AUCTION

WILL TAKE PLACE COMMENCING

MONDAY, NOVEMBER 10, 1890.

R. E. EDMONDSON, Auctioneer.

Statement of Development to September 1, 1890.

	Number.	Value.
Business houses erected and occupied.....	83	\$ 285,000
Business houses being erected.....	41	441,500
Business houses contracted for, to be completed by Jan. 1, 1891. 31		176,500
Residences erected and occupied.....	280	417,250
Residences being erected.....	97	228,450
Residences contracted for, to be completed by January 1, 1891. 72		161,450
Industrial plants in operation.....	16	289,500
Industrial plants building.....	27	2,872,500
Industrial plants contracted for.....	14	750,000
Hotels built and occupied.....	7	132,000
Hotels being erected (including Harrogate and Cumberland Gap).....	6	850,000
Hotels contracted for.....	3	45,000
Churches completed.....	5	22,500
Churches being erected.....	3	18,000

PUBLIC BUILDINGS.

Schoolhouse.....	3,500
Public library and exhibition hall.....	25,000
City hall.....	10,000

The above statement includes only cost of construction, and does not include working capital or value of properties or stock.

BANKS.

	Capital.	Deposits.
Coal & Iron Bank.....	\$1,000,000	\$430,000
First National Bank (to be increased to \$100,000).....	50,000	160,000
People's Bank.....	500,000	120,000
Bank of Middlesborough (to be increased to \$100,000)....	50,000	60,000
Bank of Cumberland Gap.....	50,000	17,000
Bank of Claiborne	25,000	10,000
Total.....	\$1,675,000	\$797,000

POPULATION.

The population of Middlesborough was fifty souls in May, 1889. In August, 1890, about 6,200. Including the plants that are now completed and those that are in course of construction, which, by contract, are to be completed inside of fifteen months, Middlesborough will have a working population, composed of skilled and unskilled labor, of 7,688 men, which, according to all acknowledged rules, will give the city in eighteen months nearly 40,000 inhabitants.

NOTE.

Two years ago the nearest railroad was at Corbin, on the Louisville & Nashville System. To-day there are in Middlesborough the Louisville & Nashville, the Knoxville, Cumberland Gap & Louisville Railroads, the Belt Line and, by traffic arrangements, the Norfolk & Western and the East Tennessee, Virginia & Georgia Roads, with others building.

FOR CIRCULARS AND ALL OTHER INFORMATION ADDRESS

JOHN M. BROOKS, Resident Manager,
MIDDLESBOROUGH, KY.

Messrs. AUGUST BELMONT & CO., NEW YORK.

Messrs. VERMILYE & CO., NEW YORK.

Subscription for \$5,000,000

Of 8 per cent. Cumulative Preferred Stock.

THE NATIONAL CORDAGE CO.

Incorporated under the laws of the State of New Jersey.

DIRECTORS.

JAMES M. WATERBURY, President, of L. Waterbury & Co.
 FRANK T. WALL, Vice-President, of William Wall's Sons.
 ELISHA M. FULTON, Treasurer, Prest. of the Elizabethport Cordage Co.
 CALEB P. MARSH, Secretary, Prest. of The Tucker & Carter Cordage Co.
 JOHN A. TUCKER, Treasurer of The Tucker & Carter Cordage Co.
 CHAUNCEY MARSHALL, of L. Waterbury & Co.
 WILLARD P. WHITLOCK, Treasurer of Elizabethport Cordage Co.

Registrar of Transfers:

FARMERS' LOAN & TRUST CO., NEW YORK.

Attorneys:

BETTS, ATTERBURY, HYDE & BETTS, EQUITABLE BUILDING, NEW YORK.

CAPITAL STOCK, \$15,000,000

Divided into 50,000 shares 8 per cent. Cumulative Preferred Stock
 of \$100 each, \$5,000,000.

100,000 shares of Common Stock (all of which has been issued as full-paid
 stock) of \$100 each, \$10,000,000.

The Preferred Stock now offered is issued full paid for cash, is non-assessable, and carries no personal liability to stockholders.

The Company has no bonded or mortgage debt, and the creation of any such debt, except with the consent of holders of record of at least eighty per cent. (80 per cent.) of the preferred stock, is prohibited by law.

The preferred stock is entitled to a preferential cumulative dividend OF 8 per cent. per annum, accruing from Nov. 1, 1890, and payable out of the net earnings of the company before any dividends are paid upon the common stock, and the preferred stock will also have priority over the common stock, in respect of all property and assets of the company, in case of liquidation or dissolution.

The two classes of stock have the same voting power per share.

Preferred dividends will be payable quarterly on the first day of November, February, May and August of each year, and the transfer books will close fifteen days prior to the date of payment.

Both classes of stock will be registered at the office of the Farmers' Loan and Trust Company of New York, and application will be made to list them on the New York, Boston and Chicago Stock Exchanges.

After the payment of 8 per cent. cumulative on the preferred stock and 12 per cent. non-cumulative on the common stock, and the reservation of such surplus as may be determined by the Board of Directors of the company, any further dividends will be divided *pro rata* between the two classes.

The organization of the company and the legal validity of the preferred stock issue now offered have been submitted by the bankers to their counsel respectively, and approved, as will appear from the following opinions:

OPINIONS OF COUNSEL.

DREXEL BUILDING, NEW YORK, Oct. 9, 1890.

To Messrs. AUGUST BELMONT & CO.

We have, as requested by you, examined the organization of the National Cordage Company, and its issue of preferred stock. It is our opinion that the organization is regular and the stock issue valid, and that the holders of said stock will be legally secure in the rights and immunities set forth in your prospectus of this date.

LOWREY, STONE & AUERBACH.

54 WALL STREET, NEW YORK, Oct. 9, 1890.

Messrs. VERMILYE & CO.

GENTLEMEN—We have investigated the organization of the National Cordage Company and the proceedings attending its issue of preferred stock.

We advise you that the organization of the company and the issue of preferred stock are valid in law, and that the holders of such stock will be entitled to the privileges and immunities stated in the prospectus. Very truly,

BUTLER, STILLMAN & HUBBARD.

PROSPECTUS.

The NATIONAL CORDAGE COMPANY is a corporation organized under the laws of the State of New Jersey for the importation of hemp and the manufacture and sale of cordage.

This industry is staple and one of the oldest in the United States; the volume of the business has increased rapidly during the past twenty years, and under the present plan of operations should be capable of still more profitable expansion, while furnishing as cheap, if not cheaper, product to the consumer.

The company, in addition to its large working capital, has contracts for the fee of the following manufacturing properties, which are now under lease to it, free of mortgage or other incumbrance:

L. WATERBURY & CO., Brooklyn, N. Y.
 WILLIAM WALL'S SONS, Brooklyn, N. Y.
 ELIZABETHPORT CORDAGE CO., Elizabethport, N. J.
 THE TUCKER & CARTER CORDAGE CO., Brooklyn, N. Y.
 GEO. C. POOLEY & SONS, Buffalo, N. Y.
 XENIA TWINE & CORDAGE CO., Xenia, Ohio.
 J. RINEK'S SONS, Easton, Pa.

In addition to which the company controls the manufacturing properties of the

VICTORIA CORDAGE CO., Dayton, Ky.
 H. R. LEWIS & CO., Philadelphia, Pa.
 BAUMGARDNER, WOODWARD & CO., Philadelphia, Pa.
 NEW YORK CORDAGE CO., New York City.
 ATLAS CORDAGE COMPANY, New Orleans, La.
 RANDALL, GOODALE & CO., Boston, Mass.

Many of these concerns have been in the business for half a century, and are well known to the business community of this and other cities.

The proceeds of the preferred stock will be paid over to the company to be applied by it to the consummation of these several contracts, and to other purposes determined by the corporation.

With the exception of the four manufacturing properties last mentioned the former managers or proprietors of the several concerns are under contracts with the company for long terms to run the respective mills under a system of competitive bids, the raw material being furnished by the company and awards being made to the lowest bidders. The contractors, whether successful or unsuccessful in bidding, are under obligations by the same contracts to maintain the mills at their own expense in a fit state of efficiency for the next annual competitive bid, in which they are obliged to take part. The company is thus under no expense for idle mills, while the skill of the business is retained. All the economies of consolidation are secured by this plan of organization, as well as the wholesome effect of free and keen competition among the manufacturers, resulting in lower prices to the public, without decreasing the profit to the company.

The company buys a very large percentage of all the fibre used in this country for cordage and binder twine. On this account it has great influence in the markets of the world for fibre, and the size of its contracts with the producing countries enables the company to obtain correspondingly favorable prices.

The company has in addition other valuable contracts and concessions.

A committee, composed of the President, the Secretary and three Directors of the company, has during August of this year, inventoried the assets of the company and reported to the stockholders that the value of the assets, exclusive of the proceeds of the \$5,000,000 preferred stock to be issued, is \$12,000,000 and upwards over and above all liabilities.

Affidavits of the foregoing committee, submitted to the bankers, and which are satisfactory to them, are the basis for the essential statements of facts herein concerning the character and volume of business of the corporation, its assets and method of operation, and in the opinion of the undersigned fully justifies these statements and the conclusions drawn from them. The affidavits further show that the annual aggregate profits of the several concerns for the past ten years have been more than enough to pay the annual dividend on the preferred stock and leave a very large surplus, notwithstanding the fact that during some of that period the interests now consolidated were in competition of a character now avoided.

The committee further certifies that at no time within the past twenty-five years have the aggregate annual profits of the several concerns been insufficient to pay the 8 per cent. dividend on the preferred stock, although the consumption of cordage at the beginning of that period was only one-quarter what it is to-day.

The common stock remains in the possession of those interested in the property and management.

By direction and on behalf of the corporation we invite subscriptions to the above-mentioned preferred stock AT PAR, payable as follows:

5 PER CENT. ON APPLICATION.
 25 PER CENT. ON ALLOTMENT.
 35 PER CENT. ON NOVEMBER 3.
 35 PER CENT. ON NOVEMBER 17.

Allottees will have the option of paying in full on allotment, and interest on the anticipated payment will be allowed at the rate of 4 per cent. per annum.

Temporary receipts will be given by the bankers for instalments as paid, exchangeable into preferred stock on November 17, the date fixed for the payment of the final instalment.

The right is reserved to reject any subscriptions and to make allotments of less amounts than the amounts applied for. In allotment preference will be given to dealers in cordage and others more directly interested in the business. If the whole amount applied for by any applicant be not allotted, the surplus amount paid on application will be applied upon the sums due on the allotment. When no allotment is made, the deposit will be returned in full.

Failure to make payment of any instalment may operate as a forfeiture of all previous payments.

THE SUBSCRIPTION LIST WILL BE OPENED SIMULTANEOUSLY
 AT 10 O'CLOCK A. M. ON TUESDAY, THE 14th DAY OF OCTOBER,
 AND CLOSE AT 3 O'CLOCK P. M. ON WEDNESDAY, THE 15th DAY
 OF OCTOBER, 1890, AT THE OFFICES OF

AUGUST BELMONT & CO.

23 NASSAU STREET, NEW YORK.

VERMILYE & CO.

16 AND 18 NASSAU STREET, NEW YORK.

And by FRANKLIN TRUST CO., Brooklyn, N. Y.

INTERNATIONAL BANK, Chicago, Ill.

FIRST NATIONAL BANK, Cincinnati, Ohio.

NATIONAL BANK OF COMMERCE, St. Louis, Mo.

Prospectuses and forms of application can be obtained at the offices above mentioned, where subscriptions will be received.

The Subscription for the entire amount of the Preferred Stock above offered has been guaranteed by underwriters in this country and abroad.
 NEW YORK, OCTOBER 9, 1890.

STODDARD, LOVERING & CO., 152 Congress Street, Boston, Mass., Sole Agents for DOBSON & BARLOW'S COTTON MACHINERY.

HAVE YOU USED
ANY OF OUR
DOBBIES — FOR —
Weaving Fancy Goods.
THEY ARE BEST MACHINES IN EXISTENCE.

Let us put in a sample machine. We have no fear of the result. Address us for prices and description.

SCHAUM & UHLINGER,
SUCCESSORS TO W. P. UHLINGER,
Glenwood Avenue and Second Street, PHILADELPHIA, PA.

THE DENN WARP
WITH NEW DOUBLE LINKER,
Makes the BEST WARP in use.

SEND FOR CUTS AND PRICES.

Single Linkers Altered to Double Linkers.

GLOBE MACHINE WORKS,
FRANKFORD, PA.

VAN WINKLE GIN & MACHINERY CO.
ATLANTA, GA., and DALLAS, TEX.

MANUFACTURERS OF



COTTON GINS, FEEDERS.

CONDENSERS AND PRESSES,

COTTON-SEED OIL MILLS,

SHAFTING, PULLEYS, WIND MILLS, TANKS, PUMPS, Etc.



The BEST COTTON-SEED OIL PRESS IN THE MARKET

Boxes Made Entirely
of Steel.

CAPACITY:

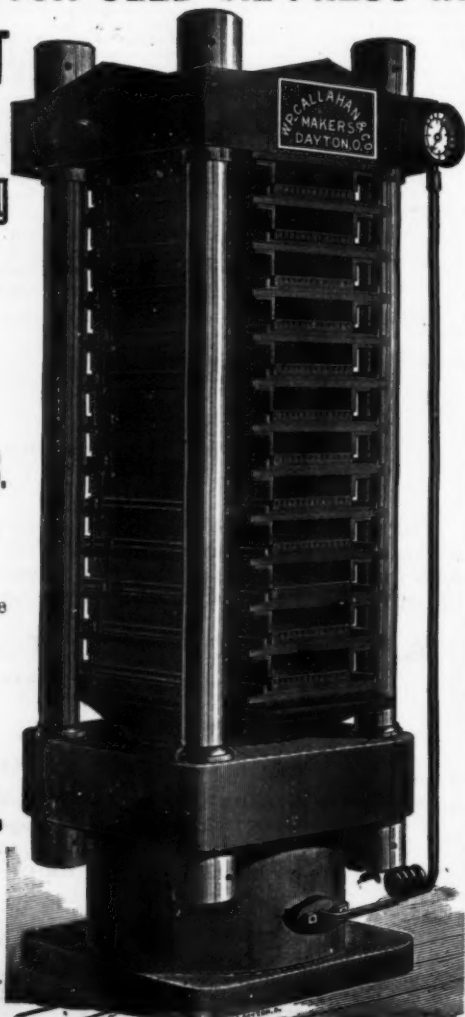
12 Tons in 24 Hours.

Parties contemplating the
erection of Cotton-Seed
Mills should
address

W. P. Callahan & Co.

DAYTON,

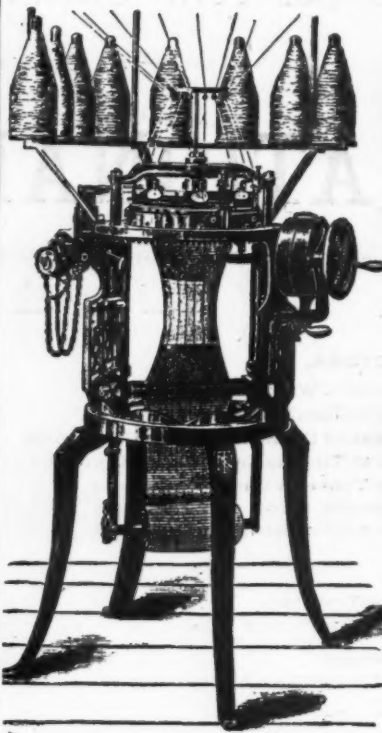
OHIO.



THADDEUS S. COBB & CO.
MANUFACTURERS' AGENTS AND DEALERS IN
MACHINERY OF EVERY DESCRIPTION.
36 Central Street, Lowell, Mass.

NYE & TREDICK

MANUFACTURERS OF



Automatic Circular Rib

Knitting Machines

FOR

Plain and Fancy Ribbed Under-
wear, Skirts, Caps, Jackets,
Jerseys, Leggings, &c.

AGENTS FOR THE

KEYSTONE KNITTER,

FOR

SEAMLESS HOSIERY.

Winders, Loopers, Steam
Presses, Hosiery and
Shirt Boards, &c.

ADDRESS

NYE & TREDICK, 608 Arch Street, Philadelphia, Pa.

Cotton-Seed Oil Machinery.

GET THE BEST.

Presses, Pumps,

Cake Formers, Meal Heaters,

Chilled Roll Crushers,

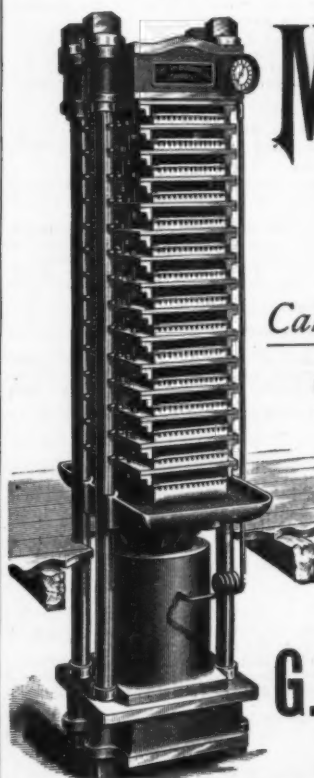
Etc.

Send for Cuts and Prices.

THE

G. H. BUSHNELL CO.

THOMPSONVILLE, CONN., U. S. A.



IMPROVED HYDRAULIC PRESS.

Our Oil Presses are fitted with Tiffany Oil Mats, Steel Boxes, Cast Steel Cylinders.

NONE BETTER.

BY WRITING TO
C. R. ENGLISH, 216 Purchase St., Boston, Mass.
YOU CAN OBTAIN

CARD CLOTHING

OF GUARANTEED QUALITY AT LOWEST PRICES.
REFERENCES TO NUMEROUS SOUTHERN MILLS NOW USING IT.

ROMPTON 1888 WOOL COMBS.
ROMPTON LOOM WORKS.
WORCESTER, MASS. COTTON, WOOLEN, SILK.
TAPE & CARPET LOOMS.

ESTABLISHED 1873
WHITINSVILLE SPINNING RING CO.
WHITINSVILLE MASS. U.S.A.
MANUFACTURERS OF SUPERIOR SPINNING AND TWISTER RINGS.

Clark's Patent Rubber Rolls
For Wool Scouring Machines, Warp, Yarn and Skein Dyeing Machines and Bleachery Use, etc. Also Complete Power Wringers, all styles. Only Rubber Roll that will withstand heavy pressure. Catalogue of rolls free.
GEO. P. CLARK, Box C, Windsor Locks, Ct.

GUNS, RIFLES, PISTOLS.
Ammunition and Sporting Supplies
OF ALL KINDS. ADDRESS
The A. G. Alford Sporting Goods Co
225 E. BALTIMORE STREET, BALTIMORE, MD.

FRED. J. MEYERS MFG. CO.
COVINGTON, KY., Manufacturers of
WIRE GOODS OF ALL KINDS,
Wrought-iron Fencing, Cresting and Hardware Specialties.
Send for Illustrated Catalogue and Price List.

Conductors' Pouch, Flower Stand, Wrought-iron Fence, Chair, Revolving Peach, Window Guard, Seed and Grain Riddle, Wire Counter Railing, Mocking Bird Cage.

HOTEL LUCERNE

J. HARRY CHAPMAN, Proprietor, Maj. J. P. LONGLEY, General Manager.

SALEM, VA.

SPECIAL ATTENTION PAID TO TRANSIENT GUESTS.

ACCOMMODATIONS FIRST-CLASS.

Fine Sample Rooms for Drummers.

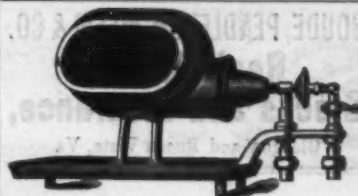
Rates Reasonable.

Mineral Lands, City Lots,

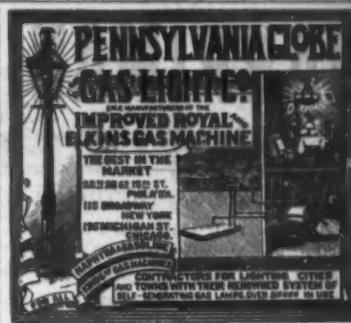
GRASS, GRAIN AND FRUIT FARMS FOR SALE.

ADDRESS

F. J. CHAPMAN, - - Salem, Va.



STICKNEY OIL BURNER
For Heating Soldering Coppers.
Saves insurance premiums, decreases fire risks. Economical and reliable. Always ready for use. Write for circular D and special information.
STICKNEY OIL BURNER CO., Portland Me.



SAVE GAS. REDUCE BILLS AND SECURE BETTER LIGHT.

The American Gas Saving Co's Gas Controller.

Over 300,000 in use. Saves from 15 to 50 per cent. according to pressure in mains.

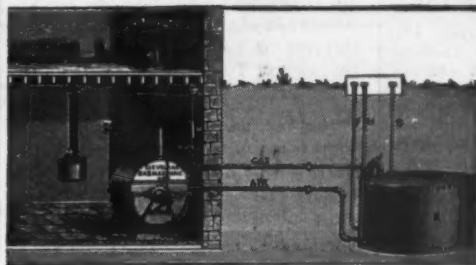
Adopted by U. S. Government after competitive tests; New York Elevated Railroad (saving \$11,519.37 in five months, over \$100,000.00 in five years). In use in thousands of Mills, Factories, Hotels, Depots, Public Buildings and Private Houses. Send for descriptive circular and testimonials. Find size of meter on brass plate in front with maker's name.

Full directions for attachment and testing sent with each. Controllers sent for trial on receipt of price, and money refunded, less express charges, if unsatisfactory and controllers returned in good order. All orders C. O. D. Agents wanted.

AMERICAN GAS SAVING CO., - - - 35 Broadway, N. Y.

The CLEVELAND GAS MACHINE CO.

176 CENTRAL WAY,
CLEVELAND, O.



Improved Gas Machines
For Illuminating and Heating

purposes. Especially adapted for Canning Factories, Mills, Churches and Stores; Country and Suburban Residences requiring from 20 to 1,000 lights; also Gas-Soldering and Metal-Heating Outfits and Special Machines for Meat-Packing Establishments. Correspondence solicited. Send for illustrated circular.

The New Industrial Light
"Lucigen"
BRILLIANT, POWERFUL AND DIFFUSIVE.
Burns Petroleum Oil Sprayed by Compressed Air.
SIMPLE, SAFE AND ECONOMICAL.
Thousands in use in Iron Works, Machine Shops, Railroad Yards, etc., etc., in Europe and in the United States.
Lamps and Burners from 200 to 10,000 Candle Power.
MANUFACTURED BY THE
INDUSTRIAL LIGHT COMPANY,
106 Temple Court, New York City.
AUTHORIZED REPRESENTATIVES—Rand Drill Company, New York City; Buffalo Engineering Co., 228 Pearl Street, Buffalo, N. Y.; W. H. Carruthers & Co., Chamber of Commerce Building, St. Louis, Mo.; Joseph Parks, Bay View, Milwaukee, Wis.; Isaac Reynolds, 5 Euclid Avenue, Cleveland, Ohio; Farvin & Co., 131 S. Fourth Street, Philadelphia, Pa.

TORCHES
To burn Gasoline and Oil. 500,000 in use. Not affected by wind or weather.
Gasoline Furnaces
For plumbers' use. Powerful Flame. Removable Melting Pot. Wind does not affect it.
GASOLINE PAINT BURNERS.
Steel Bodies. Light and Strong. Adjustable Burner.
ALL GOODS GUARANTEED.

Torches. Furnaces. Paint Burners.
SOLE MAKERS
The Schneider & Trenkamp Co.
CLEVELAND, O.

"ANCHOR BRAND"
Our
CHOICE GRADE CLOVER
Redeemed and Bulk.

SEEDS —AND— GRAIN

W. H. MOREHOUSE & CO.
Wholesale Dealers in
GRAIN, CLOVER, and TIMOTHY,
Hungarian, White Clover, Red Top,
Millet, Alfalfa or Lucerne, Blue Grass,
Orchard Grass, Lawn Grass, POP CORN, &c.

CHOICE CLOVER and TIMOTHY SEEDS
a specialty.

Orders for purchase, or sale of Seeds for future delivery, promptly attended to. Correspondence solicited.

Warehouses—225 & 227 Erie St. }
Office—46 Produce Exchange } **TOLEDO, OHIO.**

Mention this paper.

HARRIMAN, TENNESSEE.

OFFERS TO MANUFACTURERS.

Free Sites. Belt Railroad Facilities.
Abundant Water Supply, Cheap
Coal, Cheap Iron, Cheap La-
bor, Home Markets.

Magnificent Iron and Timber Resources, Inexhaustible
Beds of Coal, Excellent Transportation Facili-
ties Both by Rail and Water.

Harriman, Tenn., is located at the junction of
the East Tennessee, Virginia & Georgia Railway
system with the Queen & Crescent system, at the
point where the Emory river breaks through
Walden's Ridge. This gap is a

NATURAL GATEWAY OF TRAVEL.

As a distributing point and as a favorable situa-
tion for manufacturers, Harriman is not equalled
by any new city in the South, and is excelled by
no old city. Harriman is being built by the

EAST TENNESSEE LAND COMPANY.

Officers—Thomas L. James, president; John
Hopewell, Jr., first vice-president; Frederick
Gates, second vice-president; A. A. Hopkins,
secretary; A. W. Wagnalls, treasurer; W. C.
Harriman, managing director; W. H. Russell,
general manager.

Directors—Thomas L. James, New York City;
A. W. Wagnalls, New York City; F. Schumacher,
Akron, O.; Francis W. Breed, Lynn, Mass.;
Frederick Gates, Harriman, Tenn.; I. K. Funk,
New York City; A. A. Hopkins, Rochester, N. Y.;
John Hopewell, Jr., Boston, Mass.; J. R. Leeson,
Boston, Mass.; W. C. Harriman, Harriman, Tenn.;
J. B. Hobbs, Chicago, Ill.; Wm. Silverwood,
Baltimore, Md.; E. M. Goodall, Sanford, Me.

For information address W. H. RUSSELL,
General Manager, Harriman, Tenn.

West Salem Land Co.

SALEM, VA.

Authorized Capital, \$500,000

OFFER STOCK IN

Series C, New Castle Series.

SHARES \$10

PAR VALUE.

ARE SOLD TO SUBSCRIBERS AT \$5.

Payable, One Dollar When Subscription is
Made, and One Dollar Each June 1, July
1, August 1 and September 1; at which
time Certificates of Stock will be issued,
declared Fully Paid up and Non-assessable.

The town of New Castle (or Craig City) is the
county seat of Craig county, Va., and lies midway
between the Chesapeake & Ohio Railroad at Eagle
Rock, and the Norfolk & Western at Salem, Va.
A branch of the Chesapeake & Ohio Railroad is
now being built to New Castle, which will be com-
pleted about Sept. 1, 1890. This road will open up
the richest mineral region of Virginia, and cause
great development of resources and consequent
enhancement of values.

The property belonging to this series will be
divided into about 600 business and residence lots,
and will be sold for the benefit of the stock-
holders. Applicants for stock in series C will
please remit \$1 per share to the West Salem Land
Company at Salem, Va.

GEORGE ALLEN, President.
C. C. TOMPKINS, Secretary.

BOUDE, PENDLETON, MEEM & CO.
**Real Estate,
Stocks and Insurance,**
Glasgow and Buena Vista, Va.

R. K. WRIGHT, JR.
Real Estate and Insurance

GRAHAM, Tazewell Co., VA.

REPRESENTING

Graham Land & Improvement
Co. and Niagara Fire In-
surance Co. of N. Y.

**"GO SOUTH,
Young Man."**

THE HONORABLE CHAUNCEY M. DEPEW,
IN AN ADDRESS TO THE ALUMNI ASSO-
CIATION OF YALE UNIVERSITY, SAID, OF
HIS RECENT TOUR THROUGH THE SOUTH-
ERN STATES:

"The net results of this visit to the
South, to my mind, is just this—that THE
SOUTH IS THE BONANZA OF THE FUTURE.
We have developed all the great and sud-
den opportunities for wealth—or most of
them—in the Northwestern States and on
the Pacific Slope, but here is a vast country
with the BEST CLIMATE IN THE WORLD,
with conditions of health which are abso-
lutely unparalleled—with vast forests un-
touched, with enormous veins of coal and
iron which yet have not known anything
beyond their original conditions, with soil
that, under proper cultivation, for little
capital can support a tremendous popula-
tion; with conditions in the atmo-sphere
for comfortable living winter and summer
which exist nowhere else in the country;
and that is to be the attraction for the
young men who go out from the farms to
seek settlement and not by immigration
from abroad, for I do not think they will
go that way, but by the internal immigra-
tion from our own country it is to become
in time as prosperous as any other section
of the country and as PROSPEROUS BY A
PURELY AMERICAN DEVELOPMENT."

GO TO VIRGINIA.

Where the Development is the Widest!
Where the Opportunities are the Greatest!
Where All are Welcome!

From Boston and New England
Go via Merchants' and Miners' Steamship
Line, via Norfolk; Pennsylvania R. R.
via Norfolk, or Washington, or Harris-
burg; Baltimore & Ohio R. R. via She-
nandoah Junction.

From New York, New Jersey, Pennsylvania,
Delaware, Maryland,
Go via Old Dominion Steamship Line via
Norfolk; Pennsylvania R. R. via Nor-
folk, or Washington, or Harrisburg;
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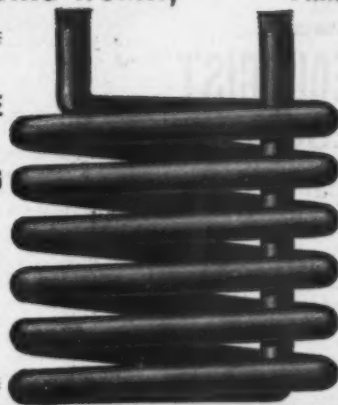
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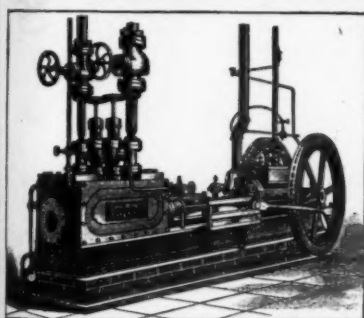
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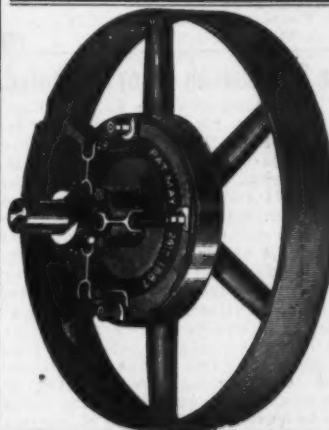
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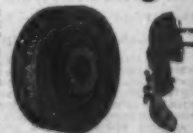
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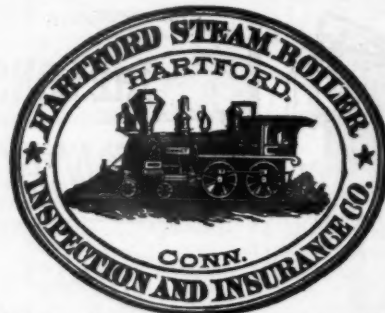
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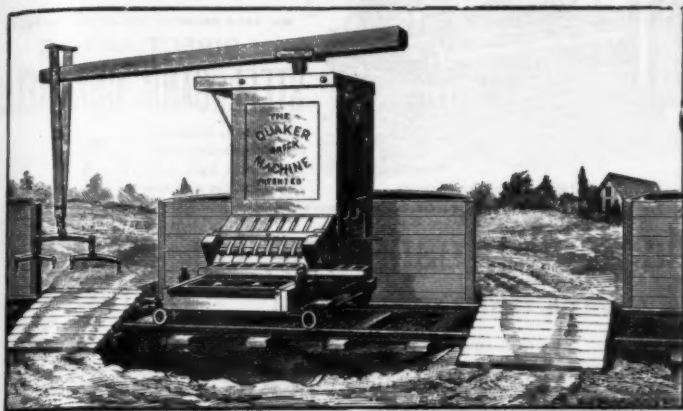
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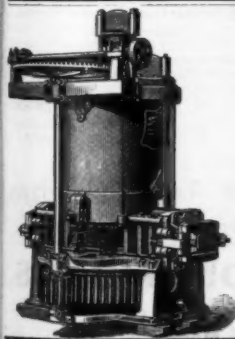
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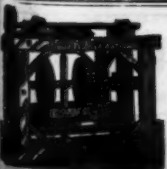
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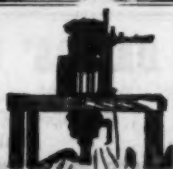
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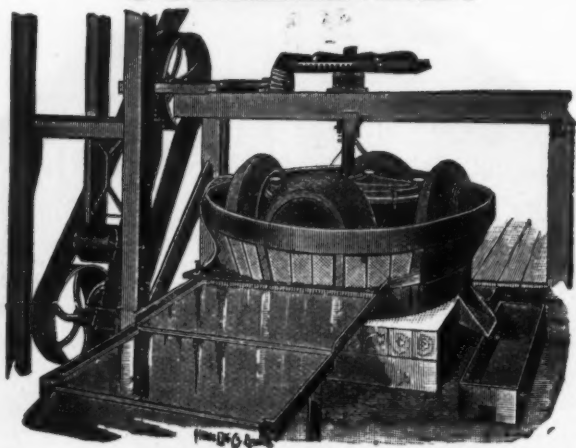
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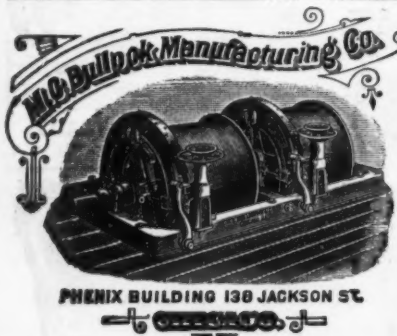
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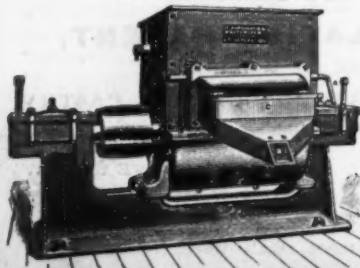
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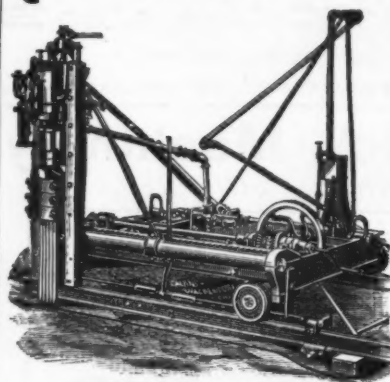
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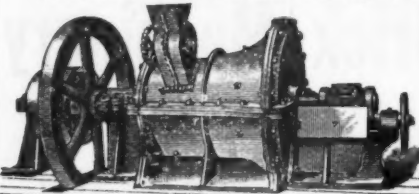
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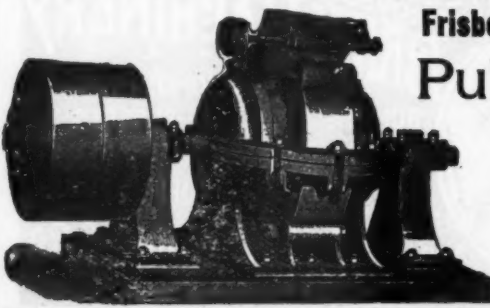
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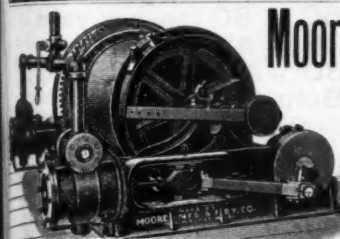
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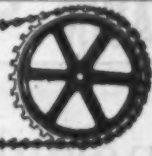
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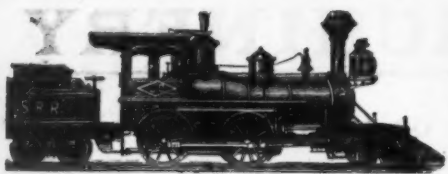
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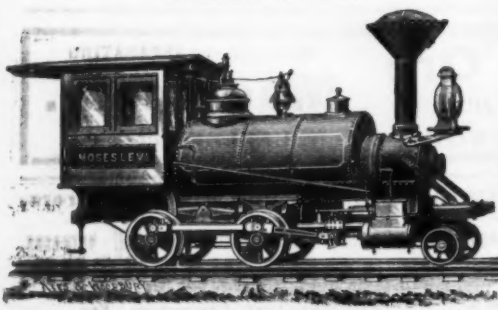
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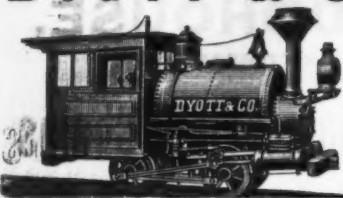
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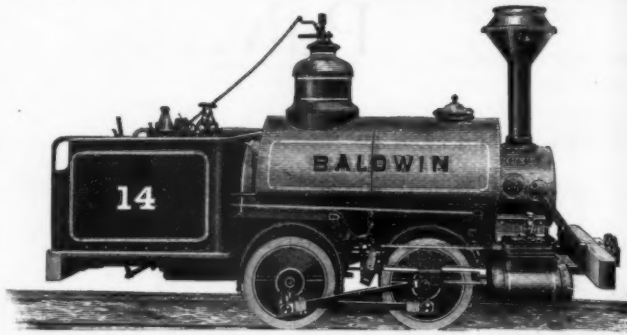


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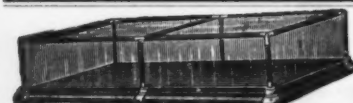
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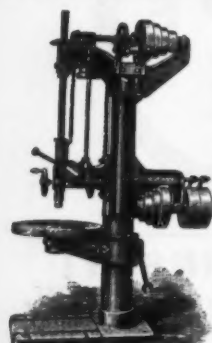
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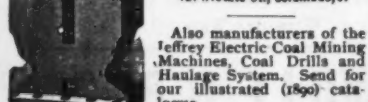
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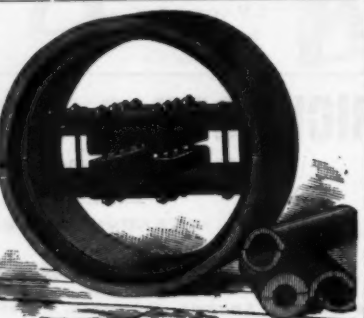
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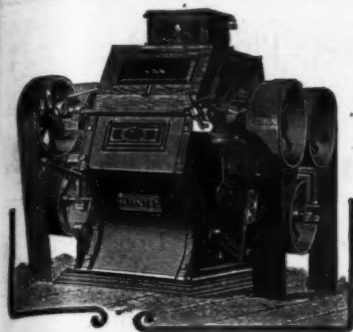
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STURGIS, MICH., July 12, 1890.

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GENTS—We started mill July 7th. The 12 pair 9x18 rolls you furnished us worked perfectly. They are so easy to adjust, so simple to handle, feed so regularly, grind so nicely and even, and work so smoothly on the whole, that we have no hesitancy in stating that we cannot see how they can have a superior, if equal. Aside from their perfect work, they are models of beauty and finish, and a decided ornament to any mill. We enclose clippings from papers. We are, with best wishes,

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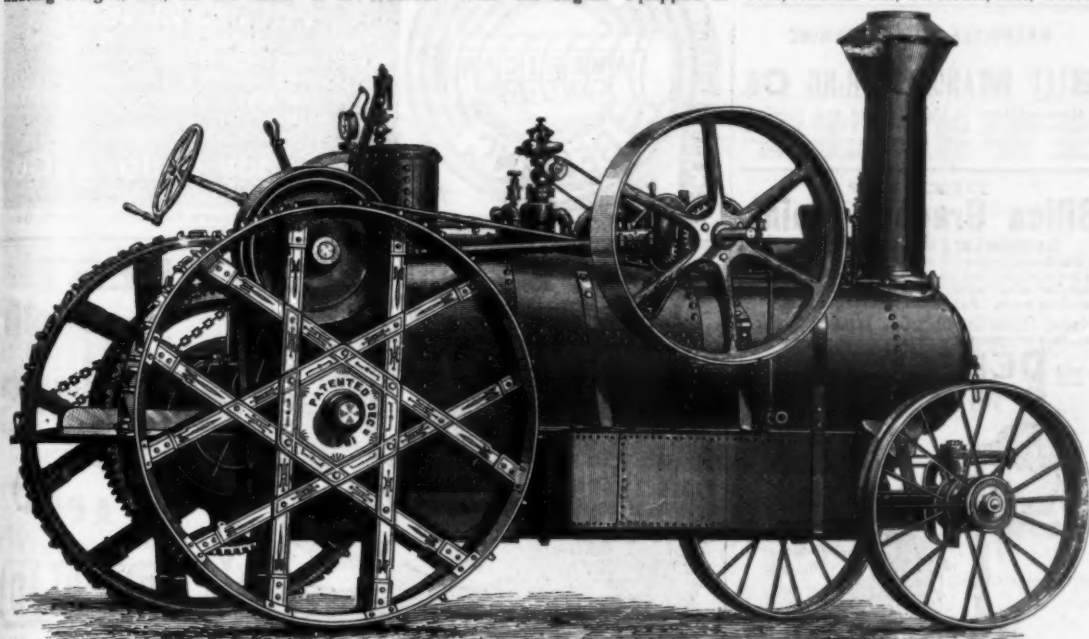
THE CASE MANUFACTURING CO., Columbus, Ohio.

Traction and Road Engines.

The accompanying cut represents the Birdsall traction and road engine. This engine is adapted to any work that the ordinary traction is used for, as well as for hauling freight, &c., on the road. It is

per hour, respectively; the change of speed can be made in a few moments by means of a lever furnished with the engine. A steam lift is furnished for filling the water tank with water, and coal boxes are also placed on the platform when so ordered. With the engine equipped as

to haul larger loads over soft or sandy roads than other engines, without being compelled to stop to bolt on mud cleats, clamps or other devices. The Birdsall Co., with factory and head offices at Auburn, N. Y., and branches at Baltimore, Md., Atlanta Ga., St. Louis, Mo., Toledo,



THE BIRDSALL TRACTION AND ROAD ENGINE.

provided with a new style of front axle and steering device, dispensing with the roll and steering chains. The axle is fastened securely to the front end of the boiler by a heavy bracket, stands parallel to the rear axle and is rigid in the direction of travel, but oscillates in passing over uneven surfaces. The axle arms are hinged to the axle frame and are provided with lever arms attached to their upper journals, which are connected by a rod at their outer ends. One of these lever arms is provided with a segmental worm gear, which is operated by a screw on steering shaft, and controls the direction of the engine by the ordinary hand wheel, both front wheels turning simultaneously, and as they describe different circles they are arranged to conform to the difference of distance which each wheel has to travel; the steering device, it is claimed, requires fewer turns of the hand wheel than any other style in use, and enables the engineer to handle the engine much quicker and easier; one man can easily operate it. The front axles being perfectly rigid in the direction of travel, the engine will run straight on the road when properly set, thus requiring less attention than other styles of steering device. With this road steering gear there is ample room to suspend a four-barrel steel water tank under the boiler. The engine is furnished with two speeds when desired, of $3\frac{1}{2}$ and 5 miles

above it is not necessary to have a separate water wagon, thus dispensing with that much load. The manufacturers claim that this traction and road engine is the equal of any similar machine manufactured, and with its open face traction wheels is able

Ohio, and Fon du Lac, Wis., are the manufacturers.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

Door and Blind Clamping Machine.

The door and blind clamping machine shown with this is manufactured by the H. B. Smith Machine Co., and weighs about 1,600 pounds

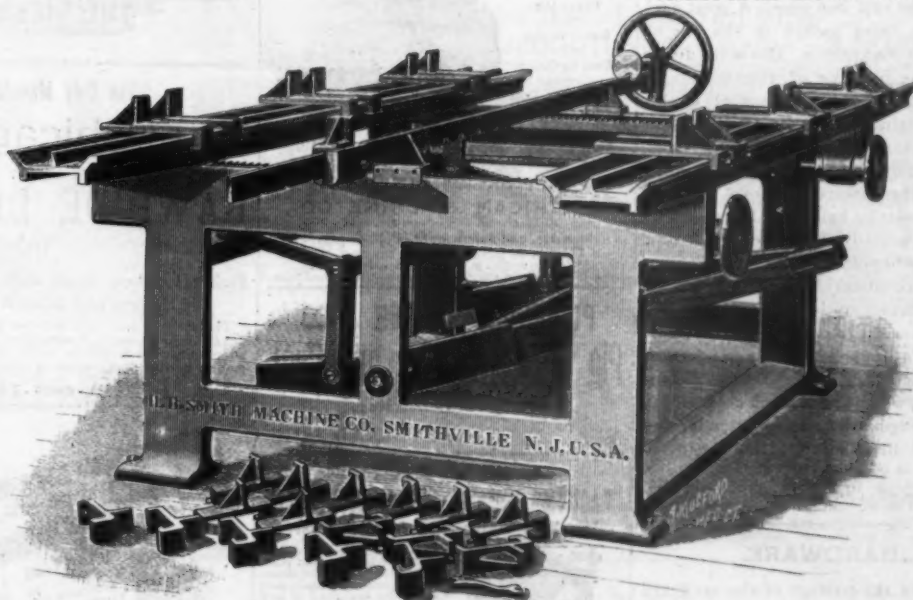
This is perhaps the most powerful machine ever put upon the market for the purpose of clamping together doors, blinds and similar work. The framing is of cast iron, very heavy and put together in the most substantial manner. The front top cross-girt is formed by one of the two powerful receiving rails which is firmly bolted to the frame, thereby securing great strength and rigidity.

The two draw bars are extra heavy and of best machinery steel. The compression members are short and very stiff. The lever connections form a knuckle joint, which in use just pass a central point, thus retaining the clamp in position until released. The pivotal fulcrum of the lever is adjustable so as to make more or less movement on the clamps as may be required.

Each receiving rail is fitted with 12 long door dogs and 16 short ones for blinds.

The machine is readily adjustable to clamp doors from 50x100 inches down to blinds 6 inches wide. The usual bar with screw clamp is provided for end pressure on doors.

When ordered a sash clamping attachment, consisting of four corner clamps pivoted on heavy iron plates, which may be secured on the machine in like manner as



DOOR AND BLIND CLAMPING MACHINE.

the clamp dogs for doors, is furnished. They can be arranged to clamp sash of size from 12x16 inches to 5x7 feet.

All machinery made by this company fully tested before leaving the works is warranted to be as represented.

The Markets.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, October 8, 1890.

The iron trade throughout the country continues strongly and active. Heavy purchases of crude iron have been made during the past week in several Western and Southern markets. Some of these contracts call for deliveries from three to six months ahead. Prices realized strongly indicate a stronger market than buyers have been inclined to admit. Other large contracts, we learn, will be made this week, and under some of them deliveries will run into February and March. This is certainly showing a great deal of confidence in the market. The passage of the tariff bill has, perhaps, exerted a strong influence upon the market. It is as yet a little too soon to draw safe conclusions on this point. Opinions of even practical iron men are not to be taken just at present. There is more or less uncertainty regarding the future of the market, but the events of the last three or four days point to stronger prices. There is a steady demand for all kinds of furnace and mill products. Southern furnace men have made large sales. Charcoal irons have sold well in the Northwest. Bessemer irons are doing well in Pennsylvania and Ohio. Forge irons are everywhere in demand. Stocks are light, and users are keeping up a steady inquiry. Special brands are sold up. Quotations are \$15 to \$15.50 at Eastern markets. No. 2 iron is selling at \$16.50 to \$17; No. 1 at \$17.50 to \$18.25. In Chicago and St. Louis large buyers have been asking for the best terms for large lots of foundry and forge iron. The mills throughout the country are all working full time. Prices are firmly maintained for merchant bar, sheet iron, plate, plank, shell flange and structural iron. There is an immense amount of construction going on. Engineering and railroad enterprises maintain a heavy demand for all kinds of material. The Pennsylvania structural mills are very much crowded with orders, some of them extending to the end of the year.

In Western markets there is a heavy demand for all such material as goes into boat building, car construction, street railway work, wagon and carriage work and all manner of agricultural work, tools and engine work. There is also a heavy demand for tank iron and wrought iron pipe as well as for cast iron pipe. A great deal of work is being pushed in the way of water works construction; also in the direction of the building of electrical light plants. All these various sources of demand maintain a steady run of orders, the result of which is to strengthen the views of manufacturers and to tone and give confidence to the markets. Railroad builders are contemplating building a large amount of work, especially in the Western States. Quite a number of new lines are projecting, but thus far contracts have not been placed for any of the enterprises referred to. The impression seems to prevail in many quarters that steel rails will decline in price at least as much as \$1 per ton from present quotations, which are as much as from \$30 to \$31. Negotiations are now under way which will likely result in the placing of orders for as much as from 40,000 to 50,000 tons, of which it is said about one-half will go to Pacific roads.

HARDWARE.

Owing to the passage of the tariff bill orders continue to pour in from all over the country. The merchants are stocking up heavily in anticipation of higher prices. The increased orders have stimulated manufacturing, and it will not be long before orders can be shipped with comparative promptness. Notwithstanding the advanced prices for material, several leading lines of

goods are sold at very low prices—strap and T hinges, wrought iron goods, such as hooks and hasps and staples, wrought butts, etc. Tacks continue demoralized, and prices are lower than ever. The tackle-block makers have been trying to see who could sell the lowest, and at this writing these goods are being offered at extremely low prices. Some of the standard makers have refused to meet these prices with their regular brands, and are now arranging to put on the market a cheaper grade of block. The stocks of foreign goods are much larger than is generally supposed, which will become apparent as soon as the new prices become better known. Large importations have been made, and bare cutlery shelves will soon be replenished from storage warehouses, etc., where large stocks have been stored in anticipation of the passage of the McKinley bill.

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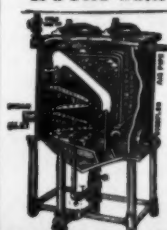
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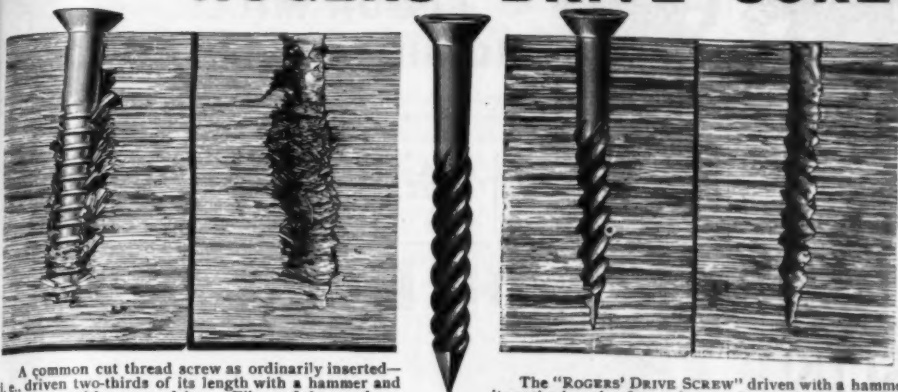
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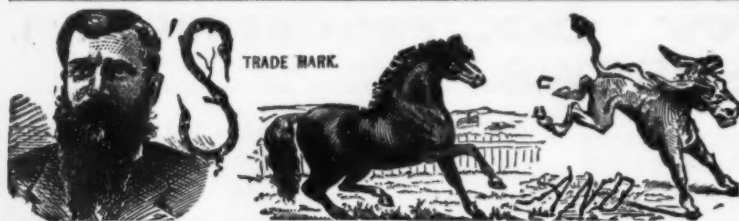
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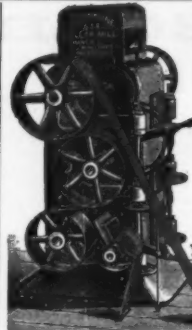
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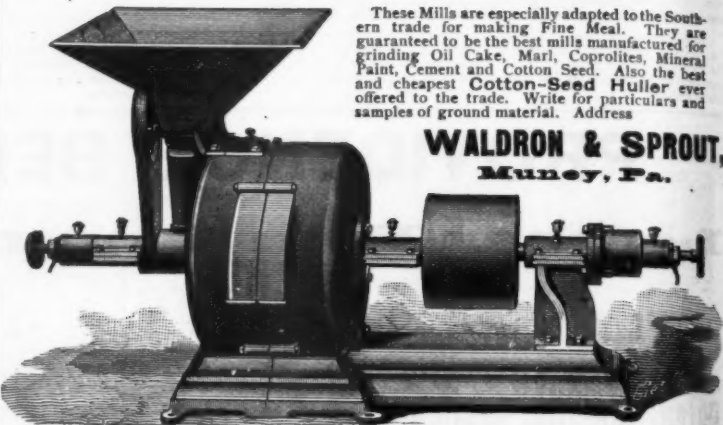
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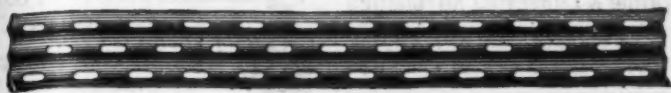
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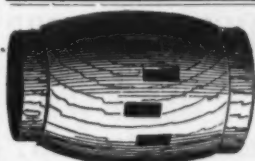
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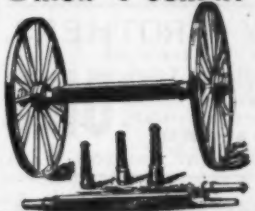
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For Fitting Cast Iron or Steel Skeins.

The hard and most particular work of Wagon Building done by Machinery, and dry hickory axles furnished with skeins fitted on, all complete, with the set and gather for wheels with one-half inch dish. The accompanying engraving represents our wagon axles as fitted up by us ready for the market. When ordering give exact width of track from centre to centre of tire. CAST IRON SEAMLESS SKEINS, metal warranted one-quarter inch thick, and take in more wood than any other skein in the market. Write for prices. We do not manufacture any wheels.



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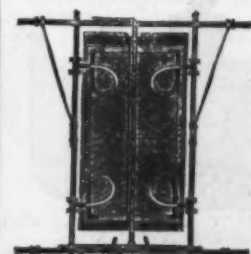
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LONGEST IN THE WORLD, GOES TOGETHER EASILY, NO SOLDER REQUIRED. BEST CONDUCTOR, HANGERS, STRAINERS, ETC.

PAT'D
1889

MADE BY **THE CANTON STEEL ROOFING CO., CANTON, O.**

Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]

NEW YORK, October 7, 1890.

Retailers pretty generally say that a further improvement has taken place in the demand for hardwood among small country and city buyers. This is not unusual at this season. In other kinds of wood, such as white and yellow pine, retailers are doing a clearing-up business. Quite a number of them have taken advantage of offers to clear out their stock. It may seem rather strange that our retailers are not anxious to carry a good supply of lumber during the winter, but the reason is simply this—they can obtain what they want from wholesalers; or, for that matter, they can buy direct from Western or Southern parties if they buy in sufficient quantities. Just now retailers are showing a preference for stocks that can be easily handled. There has been a good deal of poplar sold to and by them, and some of them claim to have sold poplar at an advance over September prices. Be this as it may, the demand for all hardwoods is good. There has been considerable inquiry this week for good poplar, and it happens that some of the buyers have recently decided to purchase now all they expect to want for the winter. This, of course, will help to swell the general demand, but the Tennessee holders of poplar have been advised that it would be well to meet the dues of their New York customers half way.

So far as the brickmakers' difficulties are concerned, they are over, and everything is moving along satisfactorily. A large amount of work is cropping out all the time in city and country. Activity in building operations is general. Quartered oak, plain oak is in better demand than we have seen it for some time. There is also an improvement in the movement of cherry, buyers having learned that the stocks coming forward and to come forward are lighter than have been supposed. The few dealers who make a specialty of looking up cherry have not been able to obtain all they wanted, and, while cherry is not quoted any higher, really good stock is bringing a little more money than a month ago. Ash is also picked up with a good deal more promptness than it has been. Upon inquiry we discover that there are no very heavy stocks on hand, but from all accounts the mills have sufficient dry stock to keep things going. There is also some little inquiry for sycamore, also for cypress, and there is a moderate movement in walnut. Chestnut is selling along every week among furniture manufacturers, and it is commanding a fair price.

With reference to yellow pine, there is very little new to be said. Our sales are large and steady. Stocks are kept in good shape. Deliveries are regular. Arrangements have been made for shipments during the winter months by car. Prices are not higher than a month ago, but we hear of fewer instances of cutting. North Carolina pine, both rough and dressed, is in good supply, and there is a disposition among the few parties to clear out what stock they have to make room for fresh supplies which they had contracted for at more favorable prices.

White pine moves along quietly and you might say silently. It is subject to very few fluctuations. There is considerable stir in the Dominion over the effects which the new tariff regulations may have upon the exportation of logs.

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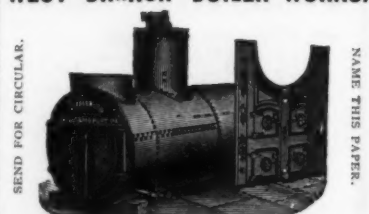
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8x3 1/4	18 1/4	7 1/2	8 1/2	4 50	8 25
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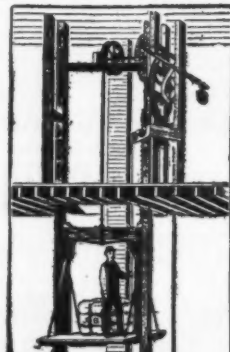
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The National Cordage Co.

The prospectus of the National Cordage Co., which is laid before the public to-day by Messrs. August Belmont & Co. and Messrs. Vermilye & Co., of New York, in connection with the offering of \$5,000,000 of 8 per cent. cumulative preferred stock of the company, contains statements of interest to the general reader as well as to investors. The company has been formed under the laws of New Jersey for the importation of hemp and the manufacture and sale of cordage, and the present increase in the capital is to obtain money to perfect the consummation of various contracts by which it owns and controls fifteen of the principal manufacturing concerns of the country.

All of them are well established, many having been in business over half a century. A new and unique feature of this industrial enterprise is, that while the raw material is furnished by the company, the several factories are under contract for long terms to compete with each other in the manufacture of goods. The contractors are under obligations to maintain their mills in a proper state of efficiency, at their own expense, for the next annual competitive bid, in which all are obliged to take part. Under this arrangement, all economies of consolidation are secured. This consolidation of interests has been brought about chiefly for the purpose of buying hemp jointly, so as to get it at the lowest cost and prevent speculation, it having been found that independent buying, owing to the intervention of speculators, kept hemp at a very high figure, and thus curtailed consumption. Incidentally, also, the cost of production will be lessened. This is one of the few consolidations which have taken place of late years which will benefit the consumer by giving him lower-priced goods at the expense of the foreign producer, all the hemp (or raw material) of the company being imported. Sworn reports, as to the operations of the properties now combined, show that the annual aggregate profits for the past ten years have been more than enough to pay the annual dividend of 8 per cent. on the preferred stock, and leave a handsome surplus. During part of that period, the interests now consolidated were in sharp competition. At no time within the past 35 years have the aggregate annual profits of these concerns been insufficient to pay 8 per cent. on the preferred stock, which it is proposed to issue, although the consumption of cordage at the beginning of that period was only one-quarter of what it is at the present time. That stock is preferred, not only as to dividends, but as having priority over the common stock in all of the properties and assets of the companies in case of liquidation or dissolution. Both classes of stock have the same voting power. The common stock, amounting to \$10,000,000, remains in the possession of those interested in the property and management. Subscriptions to the preferred stock, at par, will be received by the bankers mentioned above and their associates in other cities, during business hours on October 14 and 15. The subscription for the entire amount of that stock has been guaranteed by underwriters in this country and abroad.

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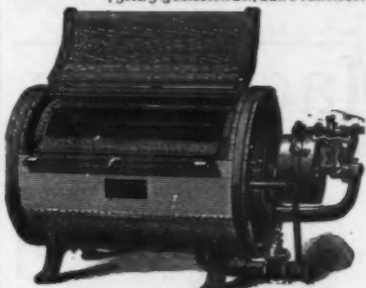


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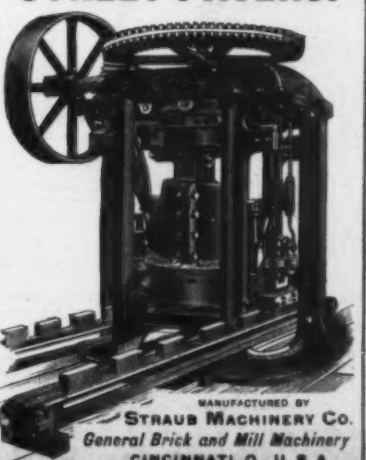
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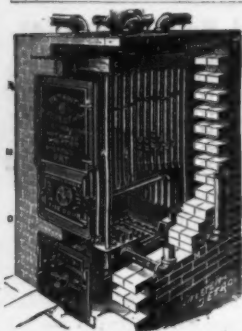
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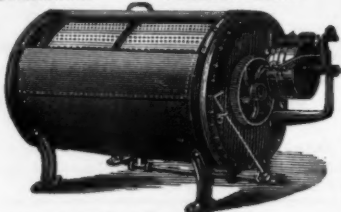
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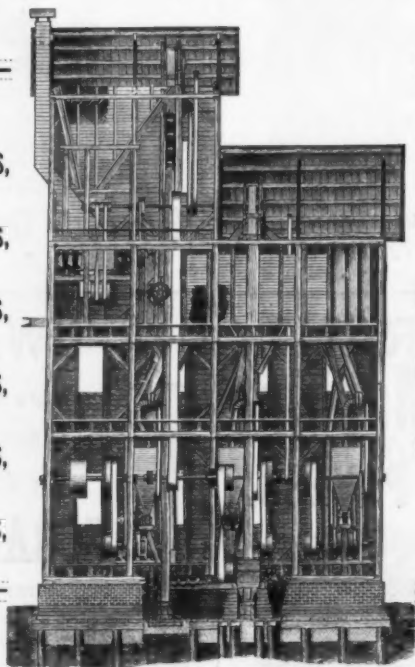
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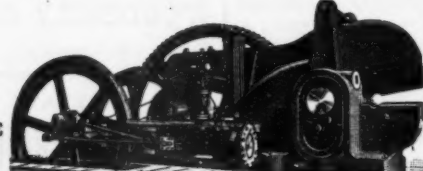
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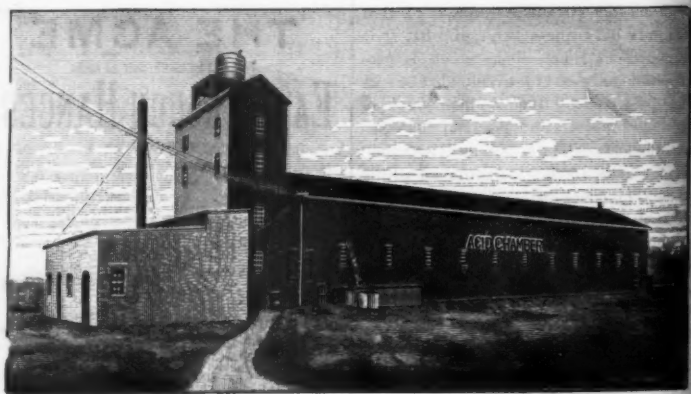
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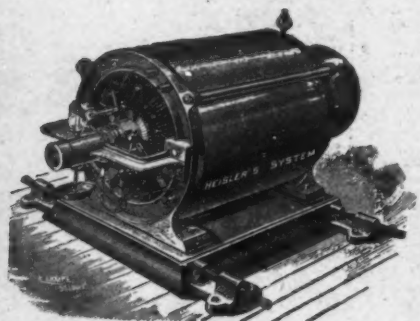


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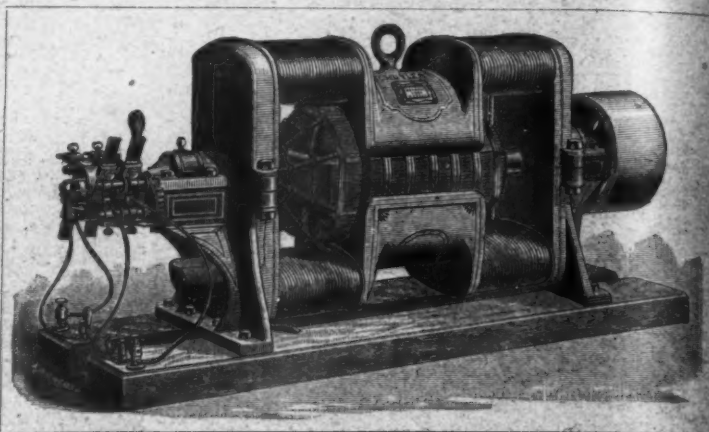
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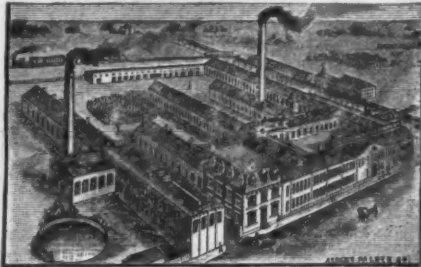
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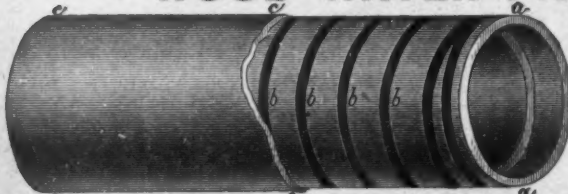
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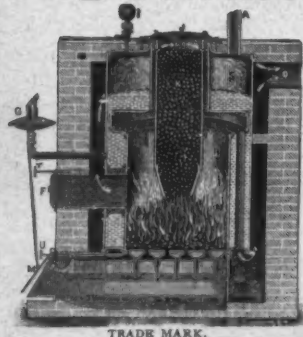
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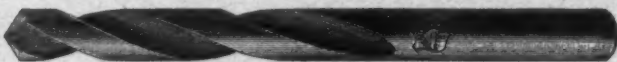
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